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ONE of the favourite Victorian pictures that tells a story depicts the last day in the old home. The family is surrounded by removal men—or are they bailiffs ? Father looks speculatively at an upraised glass of wine, which he may be drinking to the past, the future or merely to drown the present.

Shortly the Registrar and his staff of the Royal College of Veterinary Surgeons will be surrounded by removal men, but certainly not by bailiffs ; and any glass of wine will be drunk to an exceedingly successful enterprise by the College. For the sum of close on £200,000 has been secured by the sale of the present College site for commercial development in connexion with the L.C.C. Holborn-Kingsway by-pass scheme.

Whilst recognising the varied talents that go to form each individual veterinarian, it would seem to require the iron discipline and cool judgment of a financial tycoon to hold out against a "final" offer of £120,000, as we understand was the case, and eventually to secure a further £75,000. The College authorities are to be congratulated on this achievement.

Whatever the financial inducement, it must have been a difficult decision for the College Council to abandon the historic home. But if our profession has a strong sense of continuity it also is realistic. The first thought of the College Council had been to develop the site itself and perch the College on top of a commercial block alongside one of the major new traffic arteries of London. This would have maintained the historic address but would have effected little else. The very commercial value of the site would have imposed rate burdens and loan charges more appropriate to wealthy industry than to a learned and administrative body ; financial considerations would have restricted the accommodation available to the College, and elaborate precautions would have been required to restrict noise.

Vacant possession of the College buildings has to be given in January for demolition to commence. The College will move into temporary premises at Kensington, appropriately enough named " College House." This will allow a decision to be taken, without compulsion as to time, on the permanent home which it is hoped to build, or to acquire in some quieter and more appropriate quarter of London.

For a while the College authorities will be in the position of the founders who wrote in the Annual Report for 1847 :—

> " Your Council cannot, if they would, forget—for every meeting but too painfully reminds them of the fact—that the Royal College of Veterinary Surgeons is still a house-less body. No local habitation has yet been found in which your elected representatives can assemble to ameliorate your condition and forward your interests."

But if they are now in the same position as to seeking a permanent home, the Council are not entirely in the same financial position. Yet, if a building and a library that can demonstrate to the world the standing and position of the veterinary profession are to be built or acquired, the sum which the College has now gained by wise stewardship will not be excessive.

On another page will be found an account of the 'farewell' quarterly meeting of the Council held in the old College building. We look forward to the day when this journal can publish an account of the first quarterly meeting of the College Council to be held in some other building worthy of the profession.

Congress Paper

Some Common Surgical Entities of the Budgerigar*

BY

L. ARNALL

School of Veterinary Science, University of Liverpool

SUMMARY.—The surgical aspect of 3 groups of conditions in the budgerigar is described, viz: adiposity, neoplasms of the limbs, and abdominal distension. Aetiologies, symptoms, diagnoses, common differentials and treatment are given where possible with brief reference to recent literature.

Introduction

MEDICAL conditions of cage and aviary birds are becoming increasingly a subject of attention in the literature by veterinary and allied workers. Little emphasis, however, has been laid on accounts of surgical conditions and operative procedures which can be attempted under conditions of practice (Appleby, 1958; Arnall, 1958; Jones, 1956, 1959; Keymer, 1958). I propose to deal with only 3 entities which have primarily or indirectly a surgical aspect, namely adiposity, tumours of the limbs, and abdominal distension.

Adiposity

Aetiology

Budgerigars, and to a much smaller extent the larger psittacines, show a marked tendency to the deposition of fat. Experience in aviaries and amongst fanciers where birds are kept in flights, and where obesity is seldom a problem, suggests that it is closely associated with restricted activity. In closely caged birds, obesity has been noted as young as 15 months and it is extremely common from 3 years onwards. Females are more prone to the abnormality.

Diet of the majority of caged budgerigars consists largely of millets and canary seeds (Taylor, 1958; Worden & Taylor, 1959) which are high in carbohydrate and low in both proteins and unsaturated oils. Massey *et al.* (1960) have shown that, relative to tissues and carcase amino-acids, these seeds are deficient in methionine tyrosine, lysine, and arginine, with low levels of other amino-acids not yet known to be essential. Beach (1960), Keymer (1958) and Schlumberger (1955) have noted the high incidence of enlarged thyroid glands in budgerigar necropsies, and it is conceivable that tyrosine or iodine are at marginal levels in the diet of such birds. Schlumberger (1954) finds pituitary neoplasms rating highest of all tumours of budgerigars and comments on the appearance of obesity. In this country, pituitary neoplasms have only occasionally been found, and in our experience at Liverpool are rare. Gray (1936) also refers to adiposity in cage-birds.

Distribution

Fat may be localised to firm hard masses, particularly over the sternum, or be soft and diffuse involving the entire ventral and lateral surfaces of the body even enveloping the crop. Infiltration of the viscera, particularly the liver, heart, blood vessel walls and abdominal musculature is a normal concomitant finding.

Symptoms

These include a degree of sluggishness, a descending weak flight and laboured respiration which is aggravated by handling or exercise. "Râles" are usually present in some degree. These are characterised by a coarse wheeze or a raucous rattle or clicking sound, and are associated with oedematous and congested lungs with sometimes a superimposed airsac infection. Obese birds tend to lose much of their plumage over the ventral surface, possibly as much from frictional as metabolic reasons. Gouty birds are more prone to obesity because of the crippling and painful immobilisation.

Surgical Considerations

Excessive breast fat deposit, and slow abdominal distension sometimes amounting to rupture, are the types requiring surgical interference. The latter will be shown in the film. Both conditions show a projection which excoriates on the floor or perches and eventually produces granulation and an infected callus at which the bird pecks.

Because of the degenerative changes of viscera, particularly of the lung, if an operative procedure is contemplated a non-toxic non-irritant inhalation anaesthetic such as cyclopropane 20 to 40 per cent. in oxygen is recommended.

Operation for Infrasternal Lipomatous Masses

The anaesthetised bird is pinned out on its back to a cork board by adhesive tapes. The sternal region is plucked and surgically cleaned. A median longitudinal incision is made of the full length of the mass to be removed. If the start of the incision produces appreciable haemorrhage the enlargement is made by stretching with the jaws of the artery forceps.

Bleeding point, if any, may be compressed with fine (ophthalmic) Spencer Wells forceps. A pair of closed forceps are now used to separate the skin from the mass, which in turn is gently eased from the underlying pectoral muscles and the crop in extensive cases. The few appreciable blood vessels are torn between 2 pairs of forceps, the remaining edges are crushed by forceps, and the mass gradually scraped away. The excess skin containing granulating or abraded areas is excised after suturing across with

* Paper presented to the Annual Congress of the British Veterinary Association in Glasgow on Friday, September 2nd, 1960.

mattress nylon sutures well back from the edge of the original incision. Haemorrhage is generally negligible and the bird will perch within seconds of the removal of the anaesthetic mask. Extirpation of lipomatous masses has no purpose unless followed by a drastic reorganisation of the diet.

Neoplasms

General

(References under this heading are as follows: Appleby, 1958; Arnall 1958; Feyerabend, 1957; Gray, 1935, 1936; Schlumberger, 1954, 1955.)

Apart from the extensive lipomatous masses already described, discrete lipomas, fibromas, myxomas, papillomas and adenomas comprise the bulk of benign neoplasms in budgerigars. Of histologically malignant types, are encountered various sarcomas, osteosarcomas, and low grade carcinomas. Specific neoplasia of testis, ovary, kidney, spleen, liver, skin, subcutis, bone, pituitary gland, thyroid and other organs have been reported, and isolated cases of myeloid and lymphatic leucoses have appeared in budgerigars. This formidable list covers most types of growths and most organs of the body, and it is proposed to deal here only with those affecting the limbs.

Tumours of the Limb

In the forelimb a common finding is one or several swellings usually on the dorsal surface of the wing and often on or near the elbow-joint. The skin is usually intact but may ulcerate over the lesions which seldom exceed 1 cm. diameter. They are usually sessile and seldom show an appreciable neck. Most are more or less fixed to the underlying fascia or to the relatively taut skin of the area.

Their appearance is of little help in diagnosis of their histological structure or prognosis, and the following types are common: fibromas, fibrolipomas and fibromyxomas, some pure lipomas, fibrosarcomas, osteosarcomas and occasionally highly malignant sarcomas. The ratio of the benign to malignant types is about 2:1. Exploratory incision generally produces appreciable haemorrhage, but if possible histological examination of a biopsy specimen is worth while provided an opinion is obtained within a week. If an attempt is to be made to remove the mass, a satisfactory method in all but the most plaque-like lesions, is slowly to tighten a double throw silk ligature round the periphery. The ligature is pushed as deeply as possible on to the lesion by an assistant. The tightening of the ligature should take several minutes, and as it presses a neck into the tumour—the tensing apical skin should be incised to lessen pressure. The contents now being to bulge through. Further tightening in many cases will extrude the tumour mass, and by blunt dissection all, or the great bulk, can be excised leaving a fleshy cup of skin with no haemorrhage. The cup can now be cauterised by heat or chemical agents to destroy any residual tumour tissue.

Where infiltration, firm anchorage or histology indicate that full extirpation is impossible, amputation of the wing proximal to the mass may be the only hope of saving the bird's life. In this case a dorsal or ventral flap operation can be performed, with an efficient tourniquet high up the limb until the flaps are sutured over the stump.

In the hind limb, although several types of tumour have been met, the commonest are sarcomatous or osteosarcomatous, and favourite sites are the femur, tibia and stifle joint. Most are painful and crippling when advanced. Those affecting bone often show discoloration and abnormal mobility at the site, and owing to the pain may be misdiagnosed as "recent fractures" if an accurate history supported by a radiograph is not available. Pain is usually as great as, or greater than, that in fractures, and swelling is more marked and is progressive. Crepitation is seldom apparent.

If the bird has any hope of survival it lies in complete amputation of the limb from the hip, or in a few cases just above the stifle, each muscle being severed at its origin to reduce haemorrhage. Fortunately, systemic metastases do not usually occur until the primary malignancy is easily recognised by the owner and the bird presented for treatment.

Abdominal Distension

This condition, or rather symptom of several conditions, is commonly encountered in the budgerigar although it is also seen in many other bird species including the domestic fowl.

Of several aetiologies, the commonest are :—

(a) Degenerative conditions of the abdominal wall, in particular invasion of the musculature with fat and granulation tissue. The wall becomes friable, yellowish, thickened and pendulous by pressure of even normal abdominal contents. Rupture of all layers except the skin may occur, and by contact with the perch or sandpaper of the floor of the cage the skin also may become abraded and infected. These may represent senile changes but the majority are associated with local or generalised obesity.

(b) Dilatation of the oviduct (Appleby, 1958; Arnall, 1958). Here, a part of the oviduct distends with a clear or pearly fluid in which white or creamy masses may be found. The condition arises in non-laying birds and may be an accumulation of secretion of the tubal glands with occlusion of the oviduct at its cloacal and again near its proximal end.

(c) A retained egg or egg material (Appleby, 1958; Arnall, 1958; Feyerabend, 1957; Gray, 1936; Jones, 1956, 1959; Keymer, 1958). Such cases usually die in a few days and appear very ill and dishevelled when examined.

(d) An egg, abnormal egg or egg material (Appleby, 1958; Arnall, 1958; Gray, 1936) shed into the abdomen by retroperistalsis of the oviduct or a rupture of the duct. In such cases, there is more or less peritoneal effusion of a clear, sanguinous, green or opaque grey or cream colour. Distension is rapidly progressive and death occurs suddenly, sometimes before the animal is obviously seriously ill. Such cases are poor anaesthetic risks. Gross and Siegel (1959) have shown the association of *Escherichia coli* with experimental egg peritonitis in the fowl and it is possible the same combination obtains in some budgerigar cases.

(e) Neoplasms (Appleby, 1958; Arnall, 1958; Gray,

1936; Keymer, 1958). These are frequently symptomless until they produce either some visible distension or pressure symptoms such as dyspnoea, faecal retention, or impaired renal or hepatic function. The commonest tumours involve the gonads and can reach several centimetres in diameter before symptoms are apparent. Liver, spleen and kidneys are fairly common sites and encapsulated necrotic masses with granular and fluid contents are sometimes met adherent to intestine and other visceral and parietal peritoneal surfaces. They may represent degenerate lipomas or sarcomas. Other neoplasms and cysts are seen occasionally, some defying the establishment of tissue of origin and even description.

(f) Faecal obstructions due to mechanical pressure of a previously described lesion, caking of the cloaca with faeces or urates, and extreme degeneration of the abdominal wall with ventral rupture and incarceration of the gut, are encountered quite often.

Diagnosis

This can often be made on an accurate history and examination, and a reasonable prognosis given in the majority of cases. Points of importance are age, sex, dietary, bodily condition (obesity): general health (demeanour, activity, plumage), respiration, heart rate, size and consistency of the droppings and rate of growth of the swelling. The distension is examined for colour, consistency, mobility and site, and nature of its contents. A yellow, flaccid, reducible distension and possible abrasion in a healthy but perhaps lethargic and fat bird, with large diameter soft droppings suggests a degenerate abdominal wall amenable to surgery. Long standing rupture cases may show adhesions of viscera to the strands of abdominal wall. Enlarged fatty livers or other organs are common complications.

A moderately tense, fluctuating mass separable from the wall of the distension in a female which has not been laying very recently, suggests a cystic dilatation of the oviduct or other cyst. General health is usually very good.

A history of recent laying, a huddled appearance, tenesmus, a moist matted plumage round the congested vent, and a palpably hard mass suggest a retained egg or eggs.

A depressed bird with a soft, rather tense and possibly erythematous abdominal wall, suggesting fluid contents in a bird which has had a prolonged or irregular spell of laying, points to extra-tubal egg or egg material. In some cases, the peritonitis so distends the abdomen that it is not always possible to palpate the egg. Paracentesis abdominis will yield a grey, green or opaque fluid. Prognosis is very poor.

A spheroidal firm rubbery mass fixed deeply to the sublumbar region in an otherwise fit bird points to a gonadial, hepatic or other neoplastic condition. Such birds may show dyspnoea, will be poor or non-flyers, and the condition may be associated with recent obesity due to reluctance to exercise or to liver involvement. Although generally advanced when brought for treatment because of the insidious onset, such cases merit an exploratory laparotomy, for up to 50 per cent. may be operable. If a routine abdominal palpation is carried out on all birds brought for treatment, a number of operable abdominal conditions may be diagnosed and treated successfully before symptoms are apparent and while the bird is a good operative risk. Untreated, cases of abdominal neoplasia will die, mostly in a matter of weeks. Other conditions described, except perhaps wall degenerations, will usually die in a few days or weeks.

Faecal obstruction is seldom primary, and gentle intermittent pressure of the abdomen between thumb and finger will generally cause voiding of faeces and allow a more detailed palpation of the abdominal contents. Continued pressure, however, may irrevocably damage the respiratory or circulatory system causing rapid death.

In the time available I cannot deal with the medical, dietary, nursing and other supportive treatments, but I hope members may be encouraged to consider surgical treatment a feasible alternative to euthanasia.

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THE SPEAKER'S INTRODUCTION

The Chairman, Mr. J. A. Dall, in introducing the author, said that the paper was a practical one and he hoped it would occasion many questions.

Mr. Arnall said that, apart from mentioning that a paper which covered the field of surgery in general was now in print and would be available shortly, he wished to confine his opening to the showing of a film.

The Opener

Mr. O. Graham-Jones said that the author had realised that for a congress paper it would be impossible to do more than consider very few of the surgical conditions affecting the budgerigar. He had chosen adiposity, neoplasia and abdominal distension. It was hoped that in the future he would give them the benefit of his experience of other conditions affecting the budgerigar.

To refer to that section of the paper discussing adiposity, when Arnall referred to removal of excessive breast fat deposits he described the anaesthesia of choice as being a non-toxic non-irritant inhalation anaesthetic such as cyclopropane 20 to 40 per cent. in oxygen. Experience gained with the use of halothane at the concentration produced by a flow of oxygen up to half a litre per minute over an open halothane bottle suggested that that was probably better than cyclopropane; certainly it had no explosion risk. Did

Arnall find it better to conduct initial gaseous anaesthesia in some form of gas chamber, subsequently transferring the bird to a face mask? Many of them had adapted various materials to make a suitable face mask for small birds, and tubes of cardboard or clear plastic material of sufficient width to accept the bird's head and allow the feathers to make a gastight seal were common practice. The diameter of the ordinary metal adaptors for Boyles gas tubing were quite suitable for that purpose but were perhaps too rigid.

Mr. Graham-Jones said that he used transparent plastic material, since one could see the bird's face through it and observe the eyes and the tongue. Arnall made the point that the anaesthetic should be non-toxic and non-irritant, qualifying it by the fact that there might be degenerative changes of the lung tissue. But he himself was not convinced that deep narcosis or even light surgical anaesthesia produced by intramuscular injection of pentobartitone, fortified by an open-face mask anaesthesia using halothane was not as satisfactory.

In describing his operation for infrasternal lipomatous masses, the author stated:

"the anaesthetised bird is pinned out on its back to a cork board by adhesive tapes".

Mr. Graham-Jones did not favour that technique, particularly if the bird was not sufficiently anaesthetised. He had had 2 cases of radial palsy which were ascribed to trauma of the brachial plexus during attempts to flap a wing restrained in such a fashion. Cylindrical gauze was preferable, into which the whole of the bird's body was placed. The operation site was revealed by cutting transversely the fibres of the gauze. Gentle but firm restraint of wings and legs could be achieved by modest traction on each end of the piece of gauze.

Continuing the description of surgical procedure, Arnall stated that the fatty mass was gently cased from the underlying pectoral muscles, and from the crop in extensive cases. For that purpose he himself used either a blunt-ended silver probe, which was directed around the mass in a circular fashion, or a Scholl's corn scoop which, although unhappily named, was a most suitable instrument. Would the author elaborate on the remark that extirpation of lipomatous masses had no purpose unless followed by drastic reorganisation of the diet. While that point was agreed to in principle, specific recommendations for such dietary reorganisation would be welcome.

The author's description of surgery of neoplasms was quite splendid. Clearly he was a perfectionist. The reference to the wing as the forelimb, and to the leg as the hind limb, was quite correct but a little confusing at times. Doubtless the quoted ratio of 2 to 1 referring to malignant types of wing tumour was supported by laboratory findings.

Mr. Graham-Jones's own view was that the cystic type of lesion on the elbow joint was far more common than the figures given would allow one to believe. He believed that many of those lesions developed as a result of trauma to the area inflicted when fluttering around a small cage and damaging the wing not only on the bars of the cage but upon the various impedimenta put in the cage by owners, such as ladders, swings, bells, baskets, toys and so forth. Was there any connexion at all between the aetiology of that type of lesion and the sort of condition seen affecting the knees of cattle housed on badly designed concrete standings?

Complete dissection of those lesions should always be attempted and cautery of one sort or another relied upon only when dissection was impossible. After cauterisation budgerigars might attack the irritant wound. He applauded the taking of biopsies, but whilst it might be desirable academically to do that, from the practical point of view it might not be advisable.

His experience of amputation of budgerigars' wings was limited, but it seemed that the shock to the bird of severing a hollow bone was far more severe than one realised. A tourniquet was agreed to be essential. They were aware that a budgerigar could lose but little blood before its life was endangered.

It was most interesting to note that the author found that the commonest types of tumour in the hind limb (why on earth could they not call it the leg?) were sarcomatous or osteosarcomatous. He had to see such a tumour affecting the limb bone of a budgerigar, but that was doubtless a reflection upon his own inadequacy. Arnall was being extremely bold to suggest amputation of the leg from the hip—a procedure he would have thought doomed to failure.

In the section dealing with "Abdominal distension," he admired the author's ability to conduct differential diagnosis of the 6 listed main conditions producing abdominal distension. For himself, he tended to regard those distensions as being produced either by fatty masses in the abdominal wall and related to the integument, or by some form of enlargement occurring from within the abdomen. On those latter occasions he found that the only accurate method of diagnosis lay in laparotomy. Like the author he had been successful in removing tumours of the gonads provided the case was not too long standing and there was not profound involvement, either directly or indirectly from peritonitic changes, of all the abdominal contents.

When some long-standing, probably sterile, peritonitis occurred he had found it an advantage repetitively to drain the abdominal cavity of fluid before attempting surgery—a procedure which might take them 10 to 14 days if the fluid was reduced by withdrawing small quantities each time. One felt that heavy withdrawal of such fluids might lead to calamitous shock with respiratory and cardiac embarrassment. Alternatively, he had been amazed at the way a small bird would withstand the withdrawal of large quantities of fluid. Recently 18 c.c. of a claret-coloured fluid was withdrawn from such a case, to the apparent delight of the bird; and in another case diminishing quantities of fluid were removed at weekly intervals from a dropsical bird, starting with 12 c.c. and finishing up 3 weeks later when a total of 38 c.c. had been removed. At that stage the abdomen remained drained and did not fill up again, and the bird remained in perfect health. Neither he nor the Pathology Laboratory had the slightest idea as to the precise nature of the fluid removed under those circumstances, nor of many similar cases. They always seemed to be sterile and free of cells.

The author's reference to *Escherichia coli* was interesting. That organism appeared to be significant in many conditions of malaise in the budgerigar and was frequently isolated on routine examination of specimens. To his knowledge, the Pathology Laboratory had not isolated it from any of the abdominal fluids that he had referred to.

The author referred to abdominal fluids obtained from budgerigars as being grey, green or opaque, whereas he referred to them on occasion as being claret coloured. It seemed that budgerigar abdominal fluids came in all colours that frequently defied accurate definition.

Would Arnall agree that surgical repair of the ruptured abdominal wall was simply achieved by a system of overlaying suitable skin in a criss-cross fashion, any damaged skin having been removed? He had done that on several occasions and not only did it tidy up the external appearance of the bird but it seemed to provide quite an efficient artificial abdominal wall which was strengthened by the secondary cicatricial tissue.

Basically, Mr. Graham-Jones had little to add to what the author had already told them, and supported him entirely in his approach to the difficult problem of the surgical attention of the budgerigar. All the work which Arnall had done and was doing in that direction helped to underline the fact that their profession, like a great continent in the news recently, was feeling the "wind of change". The advent of the large block of flats as a unit of accommodation, with restrictions on keeping dogs and cats as pets, had produced a situation where the animal-loving public sought an alternative pet. One was provided from many creatures including monkeys, tortoises, snakes, hamsters, guinea-pigs, lizards, frogs and small birds, including the budgerigar. It was a significant fact that there were many more budgerigars in private ownership in this country than there were dogs. That the British Veterinary Association was aware of that fact was reflected in their invitation to Mr. Arnall. One wondered, however, whether the profession as a whole was aware of the situation, and whether it was prepared to meet it. Certainly one wondered whether the teaching schools had realised it and whether they catered for it by giving courses of instruction

in veterinary attention to the captive wild animal and the exotic pet. One teaching school had quite recently arranged a short post-graduate course endeavouring to stimulate interest in the profession.

Some members of the Association clearly remembered the difficulties encountered by the profession when the dog-owning public sought their veterinary assistance from unqualified sources, because it seemed to them that insufficient attention was being given to the pet animal. Some of them felt that neglect by the profession of the domestic pet at that time precipitated difficulties from which they had not yet extricated themselves. He would like to issue a solemn warning that now was the time to concentrate upon the fact that there was a huge public owning exotic pets which was waiting for veterinary attention. If they were denied that attention, or if for one reason or another the profession were not prepared to give it, the public would again seek its assistance elsewhere.

They could not, and must not, allow that to happen. In their efforts to provide veterinary attention for the exotic pet they must never forget the pioneers such as the great Henry Gray, and more recently Taylor, Worden, Beech, Keymer, Dall and others. But most of all they owed a great debt of gratitude to Mr. Arnall, and it was a privilege, on behalf of the meeting, to pay him their respects and render him their sincere and heartfelt thanks.

The General Discussion

Mr. Arnall thanked Mr. Graham-Jones for opening the discussion in such a complimentary fashion. Many of the points he had mentioned were extremely interesting and threw light on one's experience from another angle. He was hoping to try the use of halothane and oxygen. It was always as well to have a mask made of a transparent plastic material so that the degree of alertness of the bird could be watched. A danger of tight-fitting masks was that if oxygen was pumped at half a litre per minute the bird's lungs were liable to rupture. A simple method of anaesthetising, involving one anaesthetic, seemed preferable to more complicated methods. He always held a bird in the normal position while it was anaesthetised, before pinning it on its back for operation.

In obesity, the feature that was troubling the bird was not the fat over the breast but the infiltration of this material into the liver and heart. When a bird had to carry a large weight with an impaired liver and heart it was additionally burdened by this useless fat, and it was worth removing it. Very large masses could be removed with complete safety.

He could not claim to have seen many cysts on the elbow. Yellow masses occurred and a percentage of them appeared to be fatty, but cysts were rare. Experience elsewhere with tumours seemed to show that malignancy varied from district to district. Amputation of the hip was difficult. He had tried it only twice, having experimented on cadavers beforehand. Sarcomas high up the thigh were hardly worth operating on. As for operating by transverse zigzag incisions this made a firmer support for the abdominal wall, but if the process which had necessitated the operation were reduced or removed there was not much left to be held in by the sutures and strength was less important.

As for training in the treatment of birds, the veterinary schools certainly were not instructive.

Mr. Graham-Jones said that the film they had seen in colour upon surgical techniques created veterinary history. Arnall had done what was done by so few surgeons: he had filmed the failures. That was important because they learnt from failures. The photographic unit which produced the film were to be complimented. Its colour was beautiful and it was altogether outstanding.

It was assumed by all that it was desirable for the bird to perch as quickly as possible after an operation. But was that right? Were these activities of a bird recently operated upon contrary to its best interests? Should not the anaesthesia be strong enough to hold the bird still for half an hour?

Then, was the so-called American method of holding a budgerigar, with the head between the two fingers, always right? If a bird was a real fighter some assistants would let it go; then it would swing from its neck and on some occasions the back would be broken. The alternative method of holding a bird with the thumb and index finger, and supporting it with the rest of the fingers, was satisfactory.

He agreed with strapping the legs but did not think it advisable to pin down the wings. The instruments used in ophthalmic surgery were the best for dealing with the budgerigar and similar small animal surgery. Did Mr. Arnall agree that it was time the teaching schools gave a course on the treatment of exotic pets and wild animals? A large public—zoos and circuses as well as pet animal owners—were experiencing difficulty in obtaining veterinary attention.

Mr. Arnall said that in the matter of recovery he liked to see birds fairly active within half an hour after the operation, mainly because he had no method of keeping them at 70°—90° F. They were wrapped in gauze or paper and put at the bottom of the cage, and went on to the perch when they were able to escape from the wrappings—that was usually 10 minutes to half an hour afterwards. As a point of self protection he held female birds, which usually had the most vicious peck, across the neck.

In providing courses about exotic animals the difficulty would be to find the time in the curriculum. Perhaps there could be a dichotomy of the course in the last 1 or 2 years, and the students not interested need not attend these lectures. Our standing in the public eye was not as high as it might be because some practitioners would not attempt to treat small birds.

Mr. A. J. Wright (Macclesfield) said he must first congratulate both Mr. Arnall and Mr. Graham-Jones. Both were obviously experts. Could something more be said about anaesthesia? For most practitioners this had been a big stumbling block. Why was it that so many birds died following a local anaesthetic? Information on simple methods of anaesthesia would be most welcome.

Mr. Arnall said that the simplest method of anaesthesia which was amongst the oldest on record, was to use ether and an open mask. A pad with 1 or 2 c.c. of ether on it could be put at the bottom of a glass jar; the bird's head could then be inserted, and it would be quite unconscious within 2 minutes. His present methods did not give him a noticeably better rate of recovery than ether did.

Mr. Graham-Jones said he found an injection of pentobarbitone intramuscularly was probably the quickest and simplest method. Some 3 years before he had been mystified because birds he anaesthetised were dying with monotonous regularity before being operated on. He then found that solutions of pentobarbitone varied enormously once they were kept on the shelf. As a result of that discovery his solutions were now specially made up and they were made in 3 strengths—1/50th, 1/25th and 1/20th grain per c.c. Minimum dosage was calculated at 1/5th grain per pound bodyweight, and a chart had been made out to obviate the need for a calculation to be made for each case. Some people preferred to make subcutaneous injections, others intramuscular injections. If someone wanted a quick and easy method, a ready-made solution was probably the answer.

Mr. A. Thomson (Glasgow) congratulated the author and Mr. Graham-Jones on the excellence of their photographic material. Like most veterinary surgeons, he had a limited experience of budgerigars. If there was a place for local anaesthesia it must be borne in mind that the dose of the substance must be related to the volume and concentration. Halothane at present as a general anaesthetic must be costly.

Mr. Graham-Jones said that it was expensive to use Halothane. That was a drawback to the anaesthetic which presumably would be removed in a year or two when the whole production process became cheaper. So far as local anaesthesia was concerned, he could not find a place for it in small bird surgery. It was surely difficult to apply local anaesthesia to a struggling bird, without causing fright and shock, apart from the toxic effects of the anaesthetising agent.

The Chairman said that he used Nembutal with pyrogene and calculated that ½ c.c. contained 1/40th of a grain. The fluid was put in a dish and applied with a syringe. If a bird

(*Concluded at foot of page* 893)

The Racing Greyhound*

BY

J. K. BATEMAN

Winchmore Hill, London, N.21

IT gives me a great deal of pleasure to talk on the Greyhound for I regard him as the ideal patient in many ways. He is lean, he carries no excess fat, he is fond of human beings and can therefore be handled easily. If he should prove to be difficult he can be readily muzzled. He is honest, as a rule, and when he is being examined for sources of hidden pain, if one first gains his confidence he will signify where he is being hurt. Strangely enough, however, this refers only to the adult, for the young sapling is much less ready to squeal and often when palpated over an obviously sore part, particularly bone, he will not utter a sound.

There are many tens of thousands of Greyhounds in this country to-day. Most are attached to licensed tracks but there is a not inconsiderable number which are kept privately and, particularly near the large industrial centres, are raced at unlicensed tracks. All these are in addition to those dogs kept purely for coursing purposes.

The presence of this large number of racing Greyhounds in the country demands the services of many veterinary surgeons. A few, like myself, are whole-time, but we are rather a rare commodity. The large majority are part-time men as far as tracks are concerned, and the Greyhound racing industry owes an immense debt of gratitude to these fellows. They give excellent veterinary service to the sick and the injured dogs, but above all they represent the very acme of honesty in a business round which many rogues hover.

They spurn any attempt to influence their opinions or their decisions in the questions which arise over fitness or policy regarding participation of Greyhounds in races. They often detect malicious interference before the trainer himself has noticed anything amiss and are never in a position to benefit financially from the result of any race. I can only say that, talking as one who has had close connexion with the industry from its commencement, I am very proud of the work done by my colleagues, for I know that all too often it is taken for granted. There are 121 of these men who are licensed by the N.G.R.C.

The whole-time men have had an unrivalled opportunity for the study, not only of Greyhound diseases, but diseases of the canine species generally as applied to the Greyhound. Opportunity has arisen and been taken, for the true assessment of

* Paper presented to the Yorkshire Veterinary Society at Leeds on April 17th, 1959.

Some Common Surgical Entities of the Budgerigar.—*Concluded.*

died as a result of that it would probably have died in any case. Perhaps pre-operative and post-operative factors had not been stressed enough. When he was going to operate on a bird he took it in the day before, or at least some hours before, and put it in a warm room with a dim light. In one or two cases it seemed desirable to inject ordinary glucose saline. After the operation he kept the bird in a box with airholes in a warm room. It was not let out of the box for at least an hour. It was then allowed to cool down, which took about another hour, and it was then put into its cage which was retained in a dim light.

Mr. Arnall's suggestion that diets should be reorganised was interesting. Could he give some idea of how he would do it?

Although Mr. Graham-Jones did not like cauterisation, it was satisfactory for stopping bleeding and, in his own experience, more birds were lost through excess haemorrhage than through operative shock. No matter what one did in using local anaesthesia, the birds still died.

Six weeks earlier he had operated on a budgerigar with abdominal distension; he had removed a large fluid sac, afterwards ligating the neck part of it, and the bird was still alive. Another recent case of his was one of faecal impaction. The bird was given an enema and about half an egg-cupful of faecal material was removed. That was done about twice a week for 3 or 4 weeks. Eventually faeces came through the abdominal wall, but still the bird was all right. It was decided to leave well alone and not to attempt an operation. After painting the opening with a little iodine each day it closed up, and the bird passed faeces through the normal channel. The latter case was quoted as an example of what a bird could stand up to.

Mr. Arnall said it was important to impress upon owners that birds must eat less and that birds which were conservative in their habits should be enticed to eat a protein diet and possibly an oily diet. They should be encouraged to eat egg, minced meat, and milk instead of water. It was better to feed them at intervals rather than to leave a dish of food available all day.

Regarding haemorrhage, the ratio of circulation to bodyweight was smaller than in a mammal. If a budgerigar lost 7 to 10 drops it represented about 15 per cent. of the circulating volume. If a human being lost that percentage of blood in a few seconds he would be in a perilous state.

Mr. McNish (Alberta) said that he would like to hear views on the treatment of pneumonia in the budgerigar.

Mr. Arnall said that his treatment of pneumonia was chiefly to pep up the diet with mixed vitamins and egg, and, as a result, a small proportion recovered. Antibiotics and sulphonamides seldom had an appreciable effect on the eventual outcome.

Mr. Graham-Jones said it was nearly always impossible to find out what caused respiratory embarrassments in smaller birds. A flow of oxygen was of assistance, but medication was an acute problem because frequently the sick bird would not eat or drink. The average intake of water of the birds was understood to be probably less than 3 c.c. a day, and the daily average intake of seed was said to be about 6 grammes, but the figures varied enormously with individual birds.

The Chairman said that they were most grateful to Mr. Arnall and Mr. Graham-Jones, and to the other contributors, for a discussion which was even more interesting than the paper. He would ask the meeting to show its appreciation in the usual way. (Applause.)

the value of vaccines and serum in the prevention and treatment of diseases such as distemper, leptospirosis, etc. It has been possible, too, because of the large number of dogs involved, to gauge the economic importance of "fashionable" diseases, *e.g.* C.V.H., and lastly to study the basic food requirements of dogs in training.

All this refers to the health of the Greyhound. Still further we have had an opportunity by means of surgery to extend the racing lives of many otherwise useless dogs.

Feeding the Racing Greyhound

I shall talk to you to-day mainly about orthopaedic work in the racing Grehound. However, one or two experiences in the last few years on kennel management in general cause me to dwell a little on the feeding aspect. I do so because I find that there is a remarkable lack of willingness and understanding on the part of managements to put the feeding of the racing Greyhound under the jurisdiction of the veterinary surgeon. Again, there is no secret about the fact that few veterinarians trouble to get down to the basic necessities of a racing dog, or if they have had that knowledge, to agitate sufficiently to get their methods introduced.

It has to be remembered that a horse put into training and raced will always be fed more or less rationally. That is, he will get a large ration of almost entirely naturally grown foods—hay, oats, bran, etc. A pet dog gets a ration sufficient to meet its necessities and usually gets the additional advantage of titbits, milk, etc. But these pet dogs and many kennelled ordinary breeds of dog are never put to the test of really hard work like the race-horse or other hard working horse or the racing Greyhound. The horses may be driven to their utmost limit, whilst the racing dog is dragged on by the lure of the artificial hare. Many Greyhounds can be got to look very well on a diet which would not permit them to race and which indeed can be totally inadequate, yet whose inadequacy would never be noticed. The Greyhound is essentially, of course, a carnivore like all other dogs. But whilst this is his natural state, necessity demands that he has to be kept kennelled for long hours without adequate freedom and it would be a very difficult job to keep him fit and well on a total meat diet and indoor kennelling for 20 hours, or more, a day.

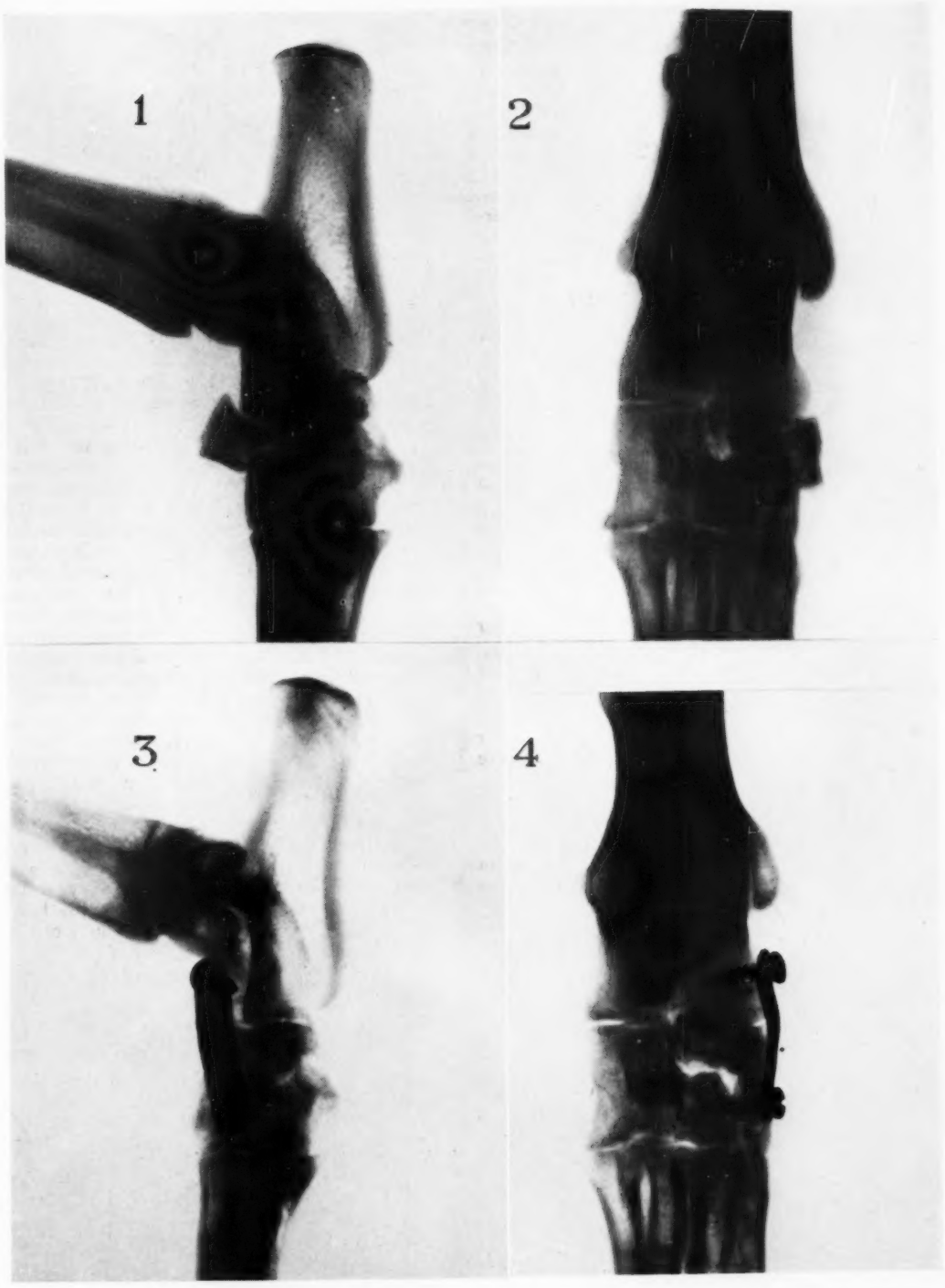
The method of feeding came to Greyhound racing *via* the coursing trainers who took on track work at the beginning of the industry. These fellows came from the good old days when there was plenty of milk, eggs, horse and other meat, raw or cooked, and good wholemeal rusks. The open race trainer to-day still feeds as *they* did, yet neither the old coursing trainer nor his successor, the open race trainer, who claimed and still claims that only the best was good enough, probably ever realised just what they were doing. In fact, they not only gave all the energy producing and body building food that was ever necessary, they also gave the accessory factors—the vitamins—in their fresh milk, raw eggs and meat—which kept their Greyhounds fit and well.

Bulk feeding for track dogs, however, became necessary when managements took over large kennels, and it is in these circumstances that we find inadequacies of diet. Speaking generally, one finds that on an average a Greyhound in regular work will require 1.2 to 1.25 lb. of carbohydrate food a day, 10 to 16 oz. of protein food, 7 to 8 pints of liquid, salt, vegetables, and vitamins. The carbohydrate may be in the form of biscuit or dried rusk. More often than not it is completely devoid of vitamin when it arrives. Sometimes it is old white bread re-baked and with little real value in it. The meat may be cooked in a broth containing green vegetable and the cooking continued for hours. Salt addition is a matter of chance, milk is scarce and eggs are non-existent in the diet. It is therefore our duty as veterinary advisors at kennels to see that Greyhounds are properly fed, to advise that fresh lightly toasted brown bread is fed as the carbohydrate part of the diet and—where for any reason this is not practicable and biscuit foods are fed—to ensure that vitamin B is added to the prepared feed in the form of brewers' yeast. It is our duty to point out how overcooking is merely wasting good food, and to set a time-table for boiling vegetables and meat; small quantities to each dog of raw or scalded meat and a daily ration of fresh or reconstituted dried milk should also be advised. In point of fact it does not cost any more to feed racing Greyhounds well, than it does to do it badly. Fresh meat may be interchanged on odd days with whalemeat (which can be fed raw), frozen cod, thawed and minced, and sometimes imported frozen horse flesh, thawed. In the kennels in which I am employed we feed a ration of reconstituted milk each morning with soaked bread, and in the afternoon a sloppy mixture of vegetable broth soaked bread, meat (or other protein) and yeast. The demands of different dogs are met by feeding of increased amounts of meat, but the essential features of the diet are (1) the quality of the bread, (2) the limitation of the time of cooking of the vegetables, and (3) a sufficiency of meat and other protein food to maintain the bodyweight according to the demands made on it. I believe white bread to be most unsatisfactory, if not even dangerous. Again, doughy underbaked bread can lead to digestive troubles. Both of these should be avoided.

Orthopaedics

And now a word about injuries and efforts to repair them. In the main, collisions apart, injuries to racing Greyhounds arise from two main causes: (1) the length of the nails, and (2) the tendency of many dogs to lead with the wrong legs when racing.

(1) *The toe nails* describe an arc of roughly 180° (see Fig. 1a) as the dog propels himself along. And at one stage of this arc, the nails are firmly dug into the ground, pointing downwards and backwards until, with the leg becoming fully extended, the whole weight is thrust forwards. At the moment of thrust, photographs show that the total bodyweight is on two middle nails of one foot (see Fig. 1b). Yet these toes stand a remarkable amount of strain. When the leverage of the toes becomes too great—due often to excessively long toe nails and the prehensile



Fracture of the right scaphoid in the Greyhound. Replacement of main fragment and retention by S.S. 1¼ inch plate as used for acrylic retention.

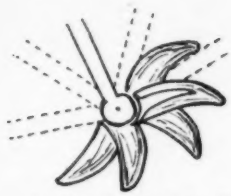


FIG. 1a.—Diagram showing the nail in different positions as it moves in an arc of approximately 180°.

action as the dog plucks at the ground—there is some dislocation of the interphalangeal joints, often merely partial, sometimes severe. This means that the collateral ligaments have become torn, the dog is lame and after a while bone will be deposited round the area of ligamentous damage and the dog will be left with one or more "knocked up" toes. The condition tends to recur and a still bigger exostosis or anchylosis is the result. No toe is immune from damage, but owing to the anatomical structure of the middle two toes of each foot I am of the opinion that these toes are damaged in the propulsion motion and the other toes suffer injury mainly rounding bends, the long nails being important contributory factors.

Treatment. Nothing very radical is required after a toe is damaged for the first time. At one time it was common practice to blister or to poultice first, then blister with iodine the enlarged part. I believe that the simplest and best approach is to inject a local anaesthetic round the nail base, strip the nail off (see Fig. 2), cut back the "quick" level with the skin and allow to heal and harden. The process takes about 3 weeks. The balance of the foot is never disturbed and the nail can be kept short for life. The enlargement may be treated while the nail is healing, but the secret really lies in the removal of the nail leverage, for the absence of further damage will allow 9 out of 10 dogs to race again without recurrence. This method of treatment may always be tried to alleviate any form of joint lameness in the manus or pes. Its use has been the means of saving innumerable toes on my premises for whereas 25 years ago I used to amputate 35 toes a year, to-day I rarely remove more than 2 or 3. The long toe nail is mainly responsible also for the split joint —a slit-like opening which may sometimes be seen directly over the terminal joint of one of the outside toes of the forefeet. Despite the fact that these open directly into the terminal joint, healing is rapid and a scar forms over the line of the joint. Unless the nail is removed, these do not usually stand up to work. Indeed it is often necessary in the more severe type of rupture to amputate the toe at the joint and leave the pad, but I rate the maintenance of balance of foot so high that I invariably remove the nail in the first instance and give the dog a fair chance.

There are occasions when toe amputation is unquestionably necessary, but although I have seen a number in which amputation has been carried out at the metacarpo-phalangeal or metatarso-phalangeal joints, I personally do not resort to that, malignant disease excepted, and consider it mutilation. Even in toe fracture, the foot should be immobilised and the nail, or at worst, the terminal phalanx, removed after 3 to 4 weeks when some degree of repair of fracture has taken place.

(2) *Leading with the wrong leg.* This tendency in many dogs may well be an inherited one, just as many people are born left-handed or ambidextrous. Indeed I am coming to the conclusion that it could be this inherited factor which causes many lines of breeding to be infamous for the high percentage of broken hocks. It is well known that fracture of the pisiform (accessory carpal) bone and fracture of the scaphoid (central tarsal) bone occurs in the racing Greyhound (on left-handed anti-clockwise tracks) in the right carpus and right tarsus only. Fracture of these bones does not occur in the left leg.

(a) *Fractured pisiform* appears to occur when the Greyhound is travelling at full speed and rounding a bend. The whole weight of the body is momentarily held on the two middle toes of the right forefoot (see Fig. 3). Circumstances demand

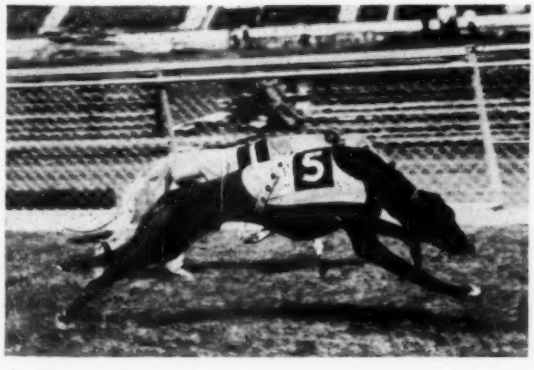


FIG. 1b.—Greyhound No. 5, leading with the outer (right) leg, thrusts his weight forward whilst perched on the two middle toes of his right hind foot.

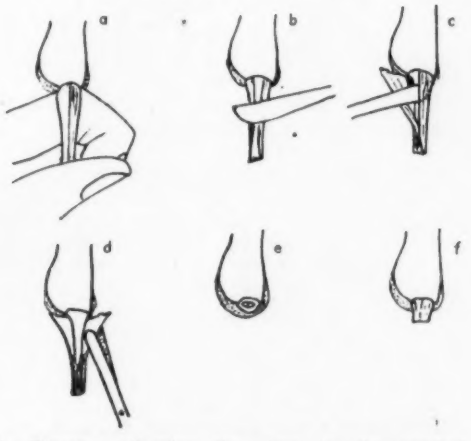


FIG. 2.—Diagram showing the steps in the surgical removal of the greyhound nail and the end result.

FIG. 3.—Greyhound, leading with the outer (right) legs, thrusts his weight forward from the two middle toes of his right fore foot.

that direction should be changed at once to the left and the resultant tension on the flexor muscles and the posterior carpal ligaments causes one or more pieces of the pisiform to be broken off. This type of fracture is always serious. Affected dogs soon trot soundly and are able to race, often quite fast, but they invariably finish lame and eventually are unable to race at all. Fragments do not join up again unless the pisiform has been subjected to an explosive type of fracture. The piece or pieces lie in or close to the medial distal surface of the bone in fibrous tissue. The muscle abductor digiti quinti which arises on the base of the pisiform and is inserted in the region of the 4th metacarpo-phalangeal joint plays a part in prevention of healing and tends to keep the fragment loose and therefore troublesome.

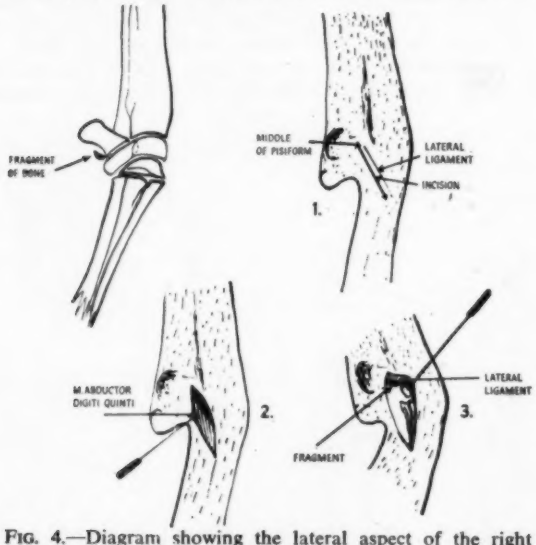


FIG. 4.—Diagram showing the lateral aspect of the right fore leg in the Greyhound with fractured right pisiform, resection of M. digiti quinti approach to and removal of fragment.

Treatment may consist of resection of this muscle but I have found that not all cases respond to this alone, and nowadays I seek out and remove the fragment before or along with resection (see Fig. 4). The operation is best done under general anaesthesia. An area is shaved over the lateral surface of the right carpus. A slanting incision is made starting over the middle of the pisiform and carried down and forward as for resection of the muscle. There is little haemorrhage. The annular carpal band is incised, the incision is continued down along the anterior border of the abductor digiti quinti from the pisiform. A director is then applied to the base of the bone and by probing at the distal anterior surface, the space between the bone and the fragment is found and the latter levered apart. This takes a little patience but eventually a pair of fine rat-toothed forceps is applied and the fragment removed. The muscle may be resected then or at the first stage. One row of sutures taking in both annular ring and skin is applied and healing takes place rapidly. Light work may be commenced in a week but I usually wait a month now before I advise galloping. One gets the occasional failure for one reason or another—in many animals severe sprain persists—but the method is sound and really imperative.

(b) *Fracture of right central tarsal bone (scaphoid)* will be well known to many of you and its repair will, I hope, be also known. Perhaps in view of my recent description of this work in THE VETERINARY RECORD you will not want me to go into great detail about it to-day. But I shall repeat that treatment should be decided on in each case after X-ray examination, bearing in mind that there is always much tearing of ligaments which do not, of course, show up in the picture. This can mean that a joint can be a great deal worse than it appears to be. Particularly is this the case if the plantar ligament is torn, for the hock then becomes very convex. But repair of other torn ligaments will cause deposition of much new bone which will be more obvious if alignment is bad. My advice on the subject may be summarised thus. If scaphoid fracture is minimal support with plaster of Paris. If there is a large piece of bone extruded operate, replace and fix with a 1½-inch long steel plate (see art plate), or remove and insert a S.S. stud for 4 or 5 weeks to brace up the joint, and then remove. If the scaphoid is shattered and the owner is willing to wait for 6 months, operate, remove all fragments and replace with an acrylic insert. All these methods can be very successful.

"Hare Spy," the first living animal (believed) ever to race with a "plastic bone" is still perfectly sound after running round the 500 yards track at Stamford Bridge, London, 41 times in trials and races. She has now been retired to stud. But not all are successful, for a variety of reasons: (1) the acrylic may not be a good enough fit; (ii) there may be other fractures in the multiple joint which are indiscernible on X-ray and which may move the acrylic; (iii) there may be a delay in new bone formation along the external ligament attachments and the acrylic may

not remain *in situ* when work is commenced; (iv) for some inexplicable reason there may be an excess of new bone formed around the insert and also around the other bones of the joint which will largely immobilise the limb.

It may yet prove to be the case that acrylic resin is not the best material with which to make inserts. Orthopaedic surgeons are largely discarding it in much of their work due to its tendency to "flake" under pressure. Experiments proceed for a substitute for protheses but my problem is rather different. I fear, for instance, that a stainless steel insert might be too heavy, and that other metals and alloys might be too rigid and lacking in "give" to suit the purpose.

It is of interest to note here that there is now a Greyhound running which has no scaphoid at all. This was shattered and entirely removed. An acrylic was inserted but no new bone was deposited along the torn ligament attachments and the acrylic would not remain *in situ*. It was therefore removed. The dog carried his limb for some weeks but eventually settled down to work and runs quite soundly though he is slightly deformed.

Fracture of the os calcis occurs mainly as a condition secondary to dislocation or fracture of the scaphoid. Sesamoid fracture. My present approach is shown diagrammatically in Fig. 5.

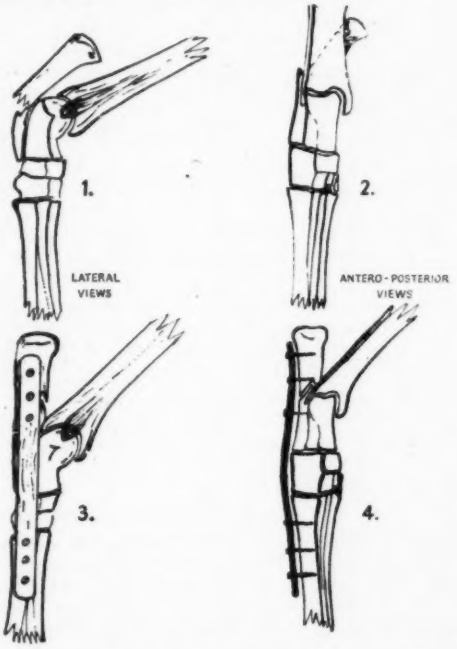


FIG. 5.—Diagram showing a fresh approach to repair of fractured os calcis in the Greyhound. Vertical lateral plate operation. S.S. plate 4 inches long, ¼ inch wide, 1/16 inch thick. S.S. screws ½ inch long, 7/64 inch diameter (right leg).

The above skeletal injuries comprise the bulk of ordinary serious injuries to the racing Greyhound, but it has to be remembered that not all accidents are to bony parts. *Tearing of muscles* is very common, particularly those in the shoulder and thigh. A number of these are attributable to faulty training as applied to the young untrained dog, the dog which has been rested or the bitch which has been laid off, in season. All of these should undergo a series of straight gallops, over increasing distances, before they are put on a track after a hare. This is the most satisfactory way of getting tone into the muscles which will then allow the dog to negotiate the bends without checking or propping. The hazards of racing, whereby a dog is forced to change direction, must often tend to put strain unexpectedly on certain groups of muscles and therefore render them liable to tearing or "sprain." And again here it seems obvious that a contributory factor must be the tendency on the part of certain dogs to lead with the wrong leg and thus put excessive strain on the musculature at the point of unbalanced compensation.

There are many other conditions such as cramp, tonsillitis, track leg, etc., which are common and about which time does not permit one to go into detail now. There are also the infectious diseases, but I hope that with what time is at our disposal you will not hesitate to ask any question you like and I shall guarantee to answer to the best of my ability.

Meantime I am grateful to your secretary and the operator for giving me the opportunity to show a few slides which demonstrate some of the features I have mentioned.

Acknowledgments.—I am extremely grateful for the help given to me during my operations by the late Major John Going, and Messrs. R. McNair and M. F. N. Etheridge. Also the G.R.A. Ltd., and to Messrs Sly and Moat, the G.R.A. photographers, for the very fine photographs they produced for me.

Reference

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THIS WEEK'S VETERINARY TELEVISION BROADCAST

To-morrow (Sunday) there is to be one of the series of broadcasts on the television by a veterinary surgeon. It will be delivered at 12.40 p.m. on the B.B.C. Service. We are indebted to the broadcaster for giving us an advance note on what he intends to say.

Most of the talk will be given over to the subject of calving and the veterinary surgeon first describes the apparatus which every farmer should have at hand for ordinary calving cases. He will go on to describe the most effective way of using this apparatus and indicating some errors, commonly made by farmers and stockmen. He emphasises very strongly the importance of care and cleanliness and of not rushing at the job. As he delivers his talk, the veterinary surgeon will carry out some simple techniques to illustrate how they should be done.

The talk will end with a simple and practical tip for turning a recumbent cow over, when the farmer has no outside help.

Systemic Insecticides in the Control of Cattle Grubs

BY

R. M. SHARMA, R. S. DYAL and L. R. CHAWLA

Government Livestock Farm, Hissar, India

SUMMARY.—1. *Results of experimental trials in the control of ox-warbles with the systemic insecticide, Neguvon, are reported.*

2. *Single oral administration of the insecticide in July at 75 mg. per kg. bodyweight resulted in a reduction of 46 per cent.; 2 doses given in July and August brought about a decrease of 75.5 per cent., 3 doses administered in May, June and July resulted in a 74.6 per cent. reduction, and 3 doses given in August, September and October were able to secure a 90.10 per cent. reduction in the number of warble nodules in the treated group as compared with the control group.*

3. *Wash treatment of the backs of warbled cattle with 1.5 per cent. solution of Neguvon, administered 3 times at 4-weekly intervals, proved effective to bring about an 86.3 per cent. reduction, and 2 per cent. solution obtained still better results to secure a 97.5 per cent. decrease in the number of warble nodules in the treated group as compared with the control group.*

4. *Local treatment with 0.5 to 1 per cent. Asuntol solution, applied 4 times at 3-weekly intervals, did not prove useful in the control of cattle grubs, the average percentage reduction being only 7.4 in the treated group as compared with the control group.*

CONTROL of warble-infestation in cattle has so far been carried out in India by the frequent singeing of hair on the legs of animals during the egg-laying season from the middle of March to the middle of June; this is repeated at an interval of 5 to 6 days (Soni, 1951), together with a local dressing of the backs of cattle with tobacco powder and lime mixture, derris powder, Gammexane or Hexidole 950, both containing 50 per cent. BHC, from October to January, applied at about 4 weeks interval. These methods, though practised over a number of years did not, however, result in any remarkable decrease in the degree of infestation among cattle in the arid areas. The reason for the failure might be manifold —it could include the difficulty of repeated singeing of hair, the labour to control the animals every now and then, and the lack of interest amongst the livestock owners to take to a rather irksome treatment—or it might be that the measures adopted do not give very encouraging results. The recent introduction of systemic insecticides is a notable milestone in the control of cattle grubs. It has the great advantage of destroying the parasites before they have caused the damage for which they are so notorious, such as interference with the healthy development of the host animal, depreciation of the flesh near the points of larval penetration, and enormous reduction in the value of the hide. The success reported as to the efficacy of systemic insecticides as an efficient control for ox-warbles is so significant that it should make young cattle severely afflicted with warbles a thing of the past. In the western countries where the new insecticides have been used during the last 3 or 4 years the livestock owners are now directly able to recognise the usefulness of the treatment with the result that their interest in warble-fly control has been stimulated.

Smith and Richards (1954) reported that mortality of larvae of *Hypoderma lineatum* caused by the application of organic phosphorus compound, L 13/59, L 21/199, and diazinon at concentrations of 0.5 to 1 per cent. was comparable to that observed with derris. Malathion, EPN and Dieldrin at 1 per cent., 0.1 per cent. and 0.5 per cent. respectively were found to be ineffective. McGregor, Radeleff and Bushland (1954) used phosphorus insecticides and recorded that L 13/59 (Neguvon) gave the best results in the control of warbles. These results were later confirmed on a large number of animals (Bolle, 1956, 1958; Rosenberger, 1956, 1957; Chambard *et al.*, 1956, 1957; Sharma & Vig, 1959). Turner *et al.* (1958), and Neel (1958) reported that excellent control of cattle grubs was obtained with Bayer 21/199. Graham (1958), however, recorded 80 per cent. control at 0.5 per cent. concentration in single test. Defoliart *et al.* (1958) reported that 100 per cent. control of warbles could not be obtained with 0.25 per cent. to 0.5 per cent. spray of Bayer 21/199 (Asuntol).

Hewott *et al.* (1958) tried Dimethoate (Carbamyl alkyl phosphorodithioate) and observed that single oral doses of from 2.5 to 40 mg. per kg. of this systemic insecticide killed 86 per cent. to 100 per cent. of second instar *Hypoderma* larvae in the backs of cattle within a week. Single oral or intramuscular doses of 10 and 20 mg. per kg. killed 50 per cent. or more of the first instar larvae within 14 to 25 days. The drug produced toxic symptoms when administered in doses above 40 mg. per kg. and proved fatal when given at the rate of 80 to 100 mg. per kg. bodyweight.

Trolene (0.0 dimethyl 0-2.4, 5-trichlorophenyl phosphorothioate) has been extensively tried in the United States of America with quite good results; Roth and Eddy (1957) mentioned that Trolene (Dow-ET-57) killed grubs in the backs of cattle and prevented the encystment of new ones. Second instar larvae were killed more rapidly than third instar grubs. It did not kill many of the grubs that were within 2 weeks of emergence. In limited spray tests it killed all the grubs at 2.5 per cent. concentration but no more than 50 per cent. at 1 per cent. concentration. Kenny and Thornberry (1958) reported 42 to 86 per cent. control of warbles in young cattle, 1 to 2 years old, by oral administration of Dow-ET-57. Harrison (1958), Neel (1958) and Defoliart

et al. (1958) recorded encouraging results with this insecticide. Wade and Colby (1958) mentioned that the warble control in cattle given Dow-ET-57 alone or with purified phenothiazine during different months ranged from 80 to 100 per cent. There were no appreciable differences with dosages of 75 and 100 mg. per kg. Dow-ET-57 and 100 mg. per kg. purified phenothiazine. They added that there were also no differences between the degree of control obtained from treatment as early as May and any time before the appearance of warbles on the back. Dowco-109 (0- (4, tertbutyl-2 chlorophenyl) 0-methyl methylphosphoramidothiate), or Narlene, has also given encouraging results for killing warble fly larvae, when administered orally or by spraying (Anon, 1959; Turner & Gaines, 1958).

Chlorophos (Dipterex) has been used in Russia on a large number of animals. It controlled warbles on 3,500 cattle when applied to the skin in 1.5 per cent. or 2 per cent. aqueous solution to which was added 1 per cent. "OP," a surface active agent with the emulsifying properties. Most animals needed only one treatment. No warbles appeared in calves treated orally with 3 doses, each of 100 mg. per kg. bodyweight, but some grubs were noticed in calves treated with 75 mg. per kg. dose (Khatin *et al.*, 1958). Potemkin and Gildenblat (1959) found that 3 per cent. aqueous solution of chlorophos killed 91 per cent., 4 per cent. killed 97 per cent. and 5 per cent. killed 98 per cent. larvae. They recommended the application to be repeated every 30 days till new larvae cease to appear. Subcutaneous injection of chlorophos at 17 or 20 mg. per kg. bodyweight did not destroy migrating larvae. Yanovich (1959) obtained 97 per cent. control of warbles by subcutaneous injection of chlorophos at 15 mg. per kg. bodyweight in 10 per cent. solution. The dose was repeated after 23 days. He also found that external dressing of the insecticide in 3 per cent. aqueous solution, repeated in 25 days, helped to kill 99 per cent. of the larvae. Emittol, stated to be a phosphoric acid ester similar to Neguvon, has been used in East Germany during the winter of 1957/8. Haupt and Kirchner (1958) reported that no larvae developed in 78 heifers given 3 doses of Emittol at the rate of 100 to 146 mg. per kg. bodyweight administered subcutaneously, as compared to 27 nodules which appeared on an average in each of the 119 untreated cattle. The results of double treatment or single treatment were not as satisfactory as those of triple treatment although the number of larvae was lower than in controls. Some animals in each herd were given Neguvon by mouth and the results obtained from 1, 2 or 3 treatments were similar to those obtained with Emittol. Borchert (1958) and Kretzschmar (1958) also recorded useful results with Emittol. The latter obtained very good results with 3 injections of 80 mg. per kg. and for external application he advised a 2 per cent. solution, to be repeated every 3 to 4 weeks.

Methods and Material

Warble infestation in cattle is a serious menace at the Government Livestock Farm, Hissar, as is generally the case in dry arid tracts. More than 80 per cent. of the animals are affected with warbles from September/October to the end of January every year. Routine dressing with tobacco and lime mixture practised during the season, singeing the hair on the legs of cattle from March to June, spraying with DDT, and administration of antrycide, anthiomaline and tartar emetic in experimental trials failed to achieve any significant results.

The present investigations were conducted with Neguvon, a systemic insecticide manufactured by Bayer, Leverkusen, Germany. Chemically it is 0, 0, Dimethyl-2, 2, 2-trichlorhydroxyethyl phosphonic acid ester. It is a white crystalline powder with a slight odour; it readily dissolves in water. Samples of the insecticide were supplied free of cost by Bayer-Agrochem Private Limited, Bombay, for experimental trials. The first trial was carried out in 1958 (Sharma & Vig) on 12 heifers of this farm, aged about 1½ years and weighing about 320 to 340 lb. The heifers were given Neguvon tablets at the rate of 75 mg. per kg. of bodyweight, thrice at 4-weekly interval, commencing from the middle of August to the middle of October, 1958. An equal number of heifers of the same age group were kept as controls for comparative study. Observations recorded on the number of warble nodules which developed in the two groups counted at fortnightly intervals from October, 1958, to the end of January, 1959, showed that on an average there was a 90.10 per cent. reduction in the number of grubs in the treated animals as compared with the controls.

During 1959, 3 trials were carried out on heifers, aged 2 to 3 years. Suspensions of Neguvon powder at dosage rates of 75 mg. per kg. bodyweight were administered orally. One batch of 10 heifers, average weight about 378 lb., were given only one dose of Neguvon in July, 1959. The second batch of heifers were given 2 doses of the insecticide, the first dose in July, and the second dose in August, 1959. A third batch of 11 heifers of almost identical age were given 3 doses, the first dose in May, the second in June and the third in July, 1959. An equal number of animals of the same age-group were kept under identical conditions of feeding and management and were left with each batch to serve as controls. Observations on the number of warble nodules, which developed on the backs of animals, were recorded every fortnight during November and December, 1959, and January, 1960, in both the treated and the control groups. Table I shows the observations recorded.

Results

The above observations indicate that a single dose of the insecticide administered in July resulted in a 46 per cent. reduction in the number of grubs, while 2 doses given in July and August caused a reduction of 75.5 per cent. Three doses administered in May, June and July brought about a reduction of 74.6 per cent., and 3 doses given in August, September and October (Sharma & Vig, 1959) were able to bring about a reduction of 90.10 per cent. in the number of warble nodules in treated animals when comparison was made with the controls. Thus to obtain the best results, it is probably advantageous

TABLE I
SHOWING EFFECT OF ORAL ADMINISTRATION OF NEGUVON IN THE CONTROL OF WARBLE INFESTATION IN CATTLE

Group of animals	Months of administration	Number of heifers	Average number of warbles observed fortnightly								Total average	Percentage average reduction in the number of grubs in treated animals compared with the controls
			1	2	3	4	5	6	7	8		
Neguvon single dose	July	10	3·3	2·7	4·5	5·2	0·6				16·3	46·0
Control group		20	3·7	6·5	9·9	9·5	0·6				30·2	
Neguvon 2 doses	July and August	10	1·1	2·1	2·3	1·8	0·1				7·4	75·5
Control group		20	3·7	6·5	9·9	9·5	0·6				30·2	
Neguvon 3 doses	May, June and July	11	1·36	1·8	1·09	1·36	0·18				5·79	74·6
Control group		11	2·36	4·7	6·9	7·9	0·90				22·76	
Neguvon 3 doses	August, September and October	12	0·17	0·18	0·91	1·45	1·0	0·82	0·36	—	4·89	90·10
Control group		12	1·17	3·55	8·55	11·83	10·0	7·08	5·27	1·91	49·36	

to administer 3 doses commencing in August and continuing to October each year.

Neguvon was also used in 1.5 per cent. aqueous solution as an external dressing applied to the backs of "warbled" cattle, once in 4 weeks, from October to December, 1959. On an average 4.5 g. of the powder, dissolved in 300 c.c. of water was required for an adult animal for each dressing. Thirty-two cows, aged 4 to 5 years, from the dairy section of the farm were divided into 2 groups and were used in the experiment. Observations were recorded on the number of warble nodules counted at fortnightly intervals, and these revealed that on an average there was 86.3 per cent. reduction in the number of grubs in the treated group as compared with the controls (see Table II).

Results obtained in the previous year with 2 per cent. wash treatment of the warbled backs in cattle (Sharma & Vig, 1959) revealed 97.5 per cent. control of grubs in the treated group. Thus it is more beneficial to use the insecticide in 2 per cent. solution for external application.

Another insecticide, Asuntol, manufactured by Bayer, Germany, was also used in a small trial as an external dressing to judge its efficacy in the control of warbles. Defoliart *et al.* (1958), Graham (1958), Turner *et al.* (1958) and Neel (1958) obtained varying results with this preparation.

Thirty cows from the dairy section, aged 4 to 5 years, were divided into 2 groups, and were used in this experiment. The treated group consisted of 16 cows and the control group was made up of 14 animals. Four dressings were applied at 3-weekly intervals from October to December, 1959. In the first 2 applications, the concentration used was 0.5 per cent. and in the subsequent 2 dressings it was increased to 1 per cent. Observations collected (Table III) on the number of warble nodules counted at fortnightly intervals indicated that this treatment did not achieve any appreciable control of the infestation, as the average reduction was only 7.4 per cent.

With the availability of systemic insecticides capable of ensuring 90 to 100 per cent. destruction

TABLE II
SHOWING EFFECT OF NEGUVON DRESSING IN THE CONTROL OF WARBLE INFESTATION IN COWS

Group of animals	Number of cows	Average number of warbles observed fortnightly						Total average	Percentage average reduction in the number of grubs in treated animals as compared with the controls
		1	2	3	4	5	6		
1·5 per cent. Neguvon dressing	16	1·56	0·47	0·25	0·14	—	—	2·42	86·3
Control group	16	3·7	3·3	3·4	3·3	3·4	0·5	17·6	

TABLE III
SHOWING EFFECT OF ASUNTOL DRESSING IN THE CONTROL OF WARBLE INFESTATION IN COWS

Group of animals	Number of cows	Average number of warbles observed						Total average	Percentage average reduction in the number of grubs in treated animals compared with the controls
		1	2	3	4	5	6		
Asuntol dressing	16	4·9	2·4	4·1	3·7	2·1	0·4	17·6	7·4 per cent.
ntrols	14	3·3	2·9	3·8	4·5	3·9	0·6	19·0	—

of grubs, the control of warble infestation in cattle has become an easy matter. The Departments of Animal Husbandry in States which have *Hypoderma lineatum* infestation as a serious problem in their areas, should now be in a position to minimise losses to the skin and hide industry. The expenditure incurred would bring in much better returns as the warble-free hides fetch appreciably higher prices in the world market.

Acknowledgments.—The authors are indebted to Mr. P. S. Brar, M.R.C.V.S., Director, Animal Husbandry, and Warden of Fisheries, Punjab, Chandigarh, for useful suggestions in carrying out the experimental trials and for permission to publish the results. Thanks are also due to Messrs. Bayer-Agrochem, Private Limited, Bombay, for generous free supplies of Neguvon. The technical assistance rendered by Mr. Rajinder Singh is also acknowledged.

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THE COLONIAL VETERINARY SERVICE

September List

Promotion: **R. N. Sanders,** B.V.SC. (SYDNEY), Deputy Director of Veterinary Services and Animal Industry, Uganda, becomes Director of Veterinary Services and Animal Industry, Uganda.

New appointment: **G. E. H. F. Stumpff-Lendner** (Hanover Veterinary School), Veterinary Investigation Officer, Northern Nigeria.

A Note on the Occurence of *Cysticercus ovis* in Sheep Derived from Sources within the United Kingdom

BY

E. F. McCLEERY and G. S. WIGGINS

Metropolitan Cattle Market, Islington

Appearance

CYSTICERCUS OVIS is the cystic stage of *Taenia ovis*, which is a small tape worm occurring in the dog and fox. Like *Cysticercus bovis* and *Cysticercus cellulosae*, the cyst occurs in the musculature, and depends on the ingestion of an infested portion of muscle by the host animal for completion of the life cycle.

The cyst appears as a spherical body, 6 to 12 mm. in diameter. In many instances there is a tendency to degeneration with a subsequent deposition of calcium salts, which encroach into the surrounding tissues, thereby giving the impression of increasing the size of the cyst. When the cyst is viable it contains a colourless fluid, which has in it the inverted scolex of the worm, which appears as a small opaque " body " measuring up to 2 mm. in diameter.

In some cases it is possible to demonstrate the scolex microscopically by pressing out the scolex " body " with a cover slip, but it has proved more satisfactory to invert the scolex manually with dissecting forceps and needle. When the head has been everted, it can be pulled over a slide so that the head gradually pulls out the " neck " of the worm and segmentation can then be seen.

The scolex can then be examined under the low-power of the microscope revealing the circle of hooks on the rostellum at the tip of the worm and the 4 suckers situated round the maximum diameter of the head (Fig. 1).

According to Mönnig (1950) the rostellum bears 24 to 36 hooks, but the former number would seem to be more common. The shape of the hook is best

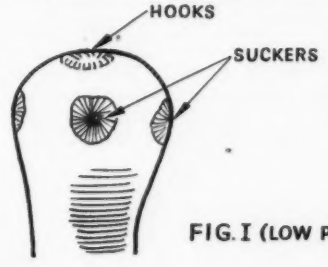

FIG. I (LOW POWER)

FIG. II (HIGH POWER)

seen under high-power magnification (Fig. 2). The literature also states the length of the hooks to be as follows : large hook—0·156—0·188 mm. ; small hooks—0·096—0·128 mm.

Usually the cyst appears in a state of degeneration and there is generally, depending on the situation of the parasite, a quantity of greenish blood-stained pus present, but even when this is the case, it is possible to identify the scolex " body " and remove it for identification, this tending to indicate that the scolex " body " resists degeneration longer than other parts of the cyst. However, when degeneration has reached the stage of calcification, it is unusual to find the scolex " body " present. The deposition of calcium salts gradually replaces the pus and ultimately these salts are the only traces of the cyst remaining in the muscle.

Location of the Cyst.—As the literature states, the common sites to find *Cysticercus ovis* are in the heart and the diaphragm.

In the heart the cysts generally show up on the epicard, but they may also be found in the actual heart muscle and just beneath the endocardium. It is of interest to record that in two hearts which were especially heavily infested, the numbers and situations were as follow :

Heart I	Epicardium — 13 cysts Endocardium — 6 cysts	}	19 cysts
Heart II	Epicardium — 6 cysts Myocardium — 1 cyst Endocardium — 5 cysts	}	12 cysts

When degenerated, the cysts in the heart tend to be filled with pus to a greater extent than those found elsewhere.

In the diaphragm, the cysts are more usually found on the thin parietal portions, and they may be seen on either the thoracic or abdominal surfaces. There is a greater tendency to calcification in the diaphragm for it has been noted that whereas the heart cysts contain pus, those in the diaphragm of the same animal tend to be undergoing extensive calcification.

Occurrence.—Records were kept of the number of sheep infested with *Cysticercus ovis* in 1959 and the monthly rate was as follows :

Month	Number of sheep examined	Number infested	Percentage infestation
January	3,993	9	0·225
February	3,478	27	0·776
March	4,245	3	0·071
April	3,884	5	0·128
May	4,950	7	0·141
June	5,801	5	0·086
July	4,996	1	0·02
August	5,129	14	0·275
September	7,233	15	0·207
October	6,905	22	0·333
November	4,977	5	0·101
December	3,824	2	0·052
Total	59,415	115	0·194

From the above figures it will be seen that the incidence of infestation is approximately 0·2 per cent.

Source.—Enquiries were made as far as possible to ascertain the origin of the sheep found infested, but little significance can be placed on this, for it is virtually impossible to accurately record the percentage through-put of any particular area. However, it was found that approximately 41 per cent. of the infestations were in sheep derived from Cumberland, and the next highest was Kent with approximately 15 per cent.,whilst other areas of the United Kingdom were on average 4 per cent.

Age.—The cysts were just as commonly found in older sheep, ewes, etc., as they were in lambs.

Occurrence of Cysticercus ovis *in the carcase.*—When evidence of *Cysticercus ovis* was found, a more detailed examination was made of the carcase. It is significant that where the cysts were confined to the heart or diaphragm, no sign of any further infestation was discovered in the rest of the carcase. However, when the cysts were found in situations other than the heart or diaphragm, *e.g.* in the flank, they were also commonly found in other parts of the musculature. An example of this can be seen in the following investigation : one sheep carcase showed evidence of infestation in the flanks. The carcase was finely sliced up and the number of cysts found, together with their position in the carcase was recorded as follows :

Situation in Carcase	Number of Cysts		Total
	Left	Right	
Neck External		1	1
„ Internal		3	3
Ribs External	1	1	2
„ Intercostal		1	1
„ Internal		1	1
Diaphragm		2	2
Flanks	2	4	6
Shoulder Internal	3		3
„ External	4	3	7
Humerus	1		1
Shin	3	1	4
Longisti clorsi	1	1	2
Pelvis Dorsal	1	1	2
„ Ventral	2		2
Hind leg External	5	5	10
„ Internal	2	11	13
Total	25	35	60

It is interesting to note that there was no evidence of infestation in the heart of the above animal.

Conclusion.—The conclusion which can be drawn from the above is that approximately 0·2 per cent. of sheep derived from all sources in the United Kingdom are infested with this parasite. This, in itself, is of little significance, but when any particular sheep is suffering from a fairly heavy infestation there is every likelihood that the cysts, which may contain pus, etc., may be scattered indiscriminately throughout the musculature and these

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Clinical Note

Successful Treatment of a Case of Exudative Pleurisy in a Cat

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SUMMARY. The successful treatment of a case of unilateral exudative pleurisy in a cat is recorded.

Subject. A 9-month-old neutered male cat.

History. Veterinary advice was sought after 3 days of progressive inappetence, apathy and general malaise.

General Examination. The cat was dejected in appearance, disinclined to move and when made to do so, walked stiffly in a crouching position for several paces only. The abdomen was tense and palpation of the hepatic region provoked intense pain. The body temperature was 104·8° F., the respiratory rate was normal and the pulse rather rapid.

Tentative Diagnosis. Hepatitis, origin unknown.

Antibiotic therapy was prescribed, and 0·15 g. aqueous suspension of chloramphenicol* and 0·5 c.c. liver extract† were injected intramuscularly. Twenty-four hours later a marked improvement in the animal's condition was obvious ; the temperature was 102·3° F., it moved more freely and had taken some milk. Pain was still apparent on palpation of the abdomen and treatment was continued. Improvement was maintained for a further 48 hours, when there was a sudden deterioration in condition and the animal was admitted to hospital.

Clinical Examination. There was now an obvious and severe dyspnoea, even when the cat had been sitting quietly for some minutes. The animal preferred to squat on its haunches and seldom adopted the prone position so characteristic of exudative pleurisy in the cat as described by Wilkinson (1956). When the thorax or abdomen were handled in any way the cat showed obvious signs of pain and distress, but there was no accentuation of the dyspnoea when the animal was turned on its back. Auscultation of the left side of the thorax revealed the absence of the normal respiratory sounds and the heart sounds were faint and muffled. On the right side normal respiratory sounds were present and the heart sounds were very loud and distinct, in fact the heart beat was clearly visible on the right side of the chest wall. Percussion of the left thorax showed dullness over the whole area, the right side being clear except for the cardiac area. Visible mucous membranes were cyanosed, the cat was severely depressed, the temperature being sub-normal.

Diagnosis. Exudative pleurisy of the left thoracic cavity, with pressure collapse of the left lung and displacement of the heart to the right side by pressure on the mediastinum. The aetiology was doubtful but the previous experience of the authors suggested the possibility of lung damage by *Aleurostrongylus* or *Toxocara mystax* larvae.

A faeces sample was submitted for parasitological examination and a small number of *Aleurostrongylus abstrusus* larvae were found.

Prognosis. Very guarded.

Treatment. The cat was anaesthetised with thiopentone sodium intravenously and a site low down on the left side of the thorax in the region of the seventh and eighth ribs was clipped and disinfected. A 16-gauge hypodermic needle was then carefully introduced between the ribs and about 60 to 70 c.c. of an offensive reddish brown fluid containing shreds of fibrin were aspirated, using a sterile 10-c.c. syringe. A tube of intramammary procaine penicillin was then attached to the needle and the contents expressed into the thoracic cavity. The syringe was then re-attached to the needle and the latter was withdrawn, whilst negative pressure was exerted by withdrawing the plunger of the syringe. A 0·15-g. aqueous suspension of chloramphenicol was injected intramuscularly.

The animal recovered from the anaesthetic quite normally, but dyspnoea was still marked although percussion of the left thorax gave a satisfactory resonance. The chloramphenicol and 10 mg. prednisolone were injected daily for the succeeding 4 days. On the fourth day 0·5 c.c. of a liver extract was injected intramuscularly in addition. On the fifth day the cat began to eat and subsequent progress was rapid and uneventful. The animal has remained in good health over the last 3 months.

Discussion. Prior to this case the authors had always regarded the condition as being invariably fatal. The important step appears to be the surgical draining of the thorax as it is difficult to visualise recovery in the presence of relatively large quantities of pleural exudate. Bilateral cases would have a more unfavourable outlook as there would be no normal lung to maintain respiration during the recovery phase. This is borne out by the fact that subsequent to the case recorded here, a bilateral case was treated in the same way but failed to recover.

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* Intramycetin (Parke, Davis & Co.).
† Hepmin (Bayer).

The Occurrence of *Cysticercus ovis* in Sheep.—*Concluded.*

may not be discovered until the carcase is jointed or indeed sold to the consumer.

It is, therefore, prudent to make several exploratory incisions into the musculature when cysts are detected in any position, but more especially when they are in situations other than the heart or diaphragm, *e.g.* in the flanks.

Acknowledgments.—We should like to express our thanks to the Cattle Markets Committee of the City of London, who provided the facilities for making this survey possible, and also to Mr. H. Yelland, a member of the Meat Inspection staff employed at the abattoir, who took such a great interest in the investigation, and devoted so much of his time assisting in the work entailed.

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Clinical Note

A Case of Laryngeal Obstruction in the Calf

D. Seawright and J. Doyle
Keith, Banffshire

Subject. A 5-month-old Aberdeen-Angus Cross calf.

History. The calf was seen after it had shown difficulty in breathing for 2 days. The appetite was poor.

Clinical Examination. The temperature was 105.5° F. and respirations were 60 to the minute. The pulse rate was discounted owing to the excitable state of the calf. On auscultation no pneumonic sounds could be heard.

Diagnosis. Congestion of the lungs was diagnosed at this time.

Prognosis. Good. This was of course changed later to very poor.

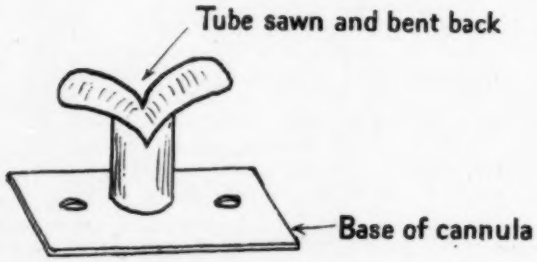
Treatment. Two million units penicillin and 1 g. streptomycin were given intramuscularly. This was repeated next day when the temperature was 102·5° F. and respirations 40 per minute. On the third day the calf's temperature was 102° F. and it was eating reasonably well. The respirations were still faster than normal but because of the temperature drop and the improvement in appetite the animal was discharged.

Progress. The calf was seen 14 days later in the field. It was noted that the respirations, although slower than before, were now deeper with pronounced abdominal breathing. The temperature was 104° F. The calf was easily caught and after exertion the breathing became stertorous. As no pneumonic sounds were present a diagnosis of partial blockage of the upper respiratory tract was given. When the larynx was gripped, even gently, the calf was unable to breathe.

An injection of 50 c.c. sulphadimidine* was given because it was believed that the cause was an infection of the larynx. Again the temperature dropped, but there was little or no improvement in the patient's general condition. The respirations remained fast and deep.

One week later breathing was very distressed and the calf could only walk a few paces at a time before resting. It was literally gasping for air.

A tracheotomy operation was decided upon as it was felt that if this relieved the symptoms the animal could be salvaged for slaughter in 2 or 3 months' time. In any case, this seemed the only alternative to immediate slaughter.



A tracheotomy tube was improvised from a cannula, as illustrated in the diagram. The obvious disadvantage of this method was recognised in that the tube would be a permanent fixture ; cleaning would therefore be difficult and would have to be accomplished from the outside. Before the operation rubber tubes were passed up each nostril to the pharynx to make sure that these were clear.

Under chlorpromazine* sedation and local anaesthetic this tube was inserted into the trachea. Immediately the trachea was opened, complete relief of symptoms was observed and, despite sedation, it became difficult to hold the calf to complete the operation.

The farmer cleaned the tube himself at least once a day. The calf could now race about the field normally without any respiratory distress.

Unfortunately the plate of the tracheotomy tube was broken off when the calf rubbed it on a fence about 2 weeks after the operation.

The wound remained patent for 2 days when a human tracheotomy tube was inserted. This completely filled the lumen of the trachea. It could be cleaned easily and replaced by the farmer. The calf, however, became expert at pulling it out on a fence, no matter how we tied it.

During the owner's sudden illness, the calf tore out the tube. When subsequently re-examined by one of us, the wound had healed completely and the calf was again in great distress.

Once more the tube was inserted but the calf died of asphyxia 2 days later through blocking of the tube by a large blood clot.

Post-mortem *Findings.* A conical mass of caseous material about ¾ in. high was present on the floor of the larynx. Below the maladorous material was a small protuberance about the size of half a pea. The parts were sent to a laboratory but nothing further was added to the picture.

Discussion. We feel that if the permanent tube had not been broken the operation would have been a success although there was always the chance of inhalation pneumonia developing.

It seems possible that this was an unusual case of calf diphtheria (infection with *Fusiformis necrophorus*) with the lesion located on the floor of the larynx. After recovery from the infection the necrotic slough in the larynx may have remained there. After *post-mortem* examination, however, the laryngeal mucosa was found intact, with no evidence of extensive sloughing having taken place.

Three cases exhibiting similar symptoms were found in this practice in the space of 4 months. A 2-year-old bullock was slaughtered but there was no *post-mortem* examination. Another calf was seen which died several months later and which showed similar *post-mortem* findings. This condition had not been seen in this area before.

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* Sulphamezathine.

† Largactil.

Farewell to Red Lion Square

The Council of the Royal College met for the last time in the College's historic home, 9 and 10 Red Lion Square, on September 30th. An account of the normal quarterly meeting will be published next week, but it was followed by a special meeting at which past members of the Council and other guests, including representatives from Canada and Australia, were present. The purpose of this meeting was to recall the history of the Royal College in that house, and especially in that council chamber, and a number of speeches, summarised below, were made. In the absence through illness of the President, Mr. J. N. Ritchie, C.B., Mr. G. N. Gould, senior Vice-President, presided. After the meeting guests were entertained to luncheon.

IN opening the special meeting Mr. Gould said : " This is the final quarterly meeting of Council to be held in this Council Chamber. I am happy to welcome two guests who are with us to-day—Dr. Cameron, from Canada, and Dr. Gill, from Australia. It is a matter of great regret that our President is not with us, since it was his conception that this historic parting gathering should be held. I feel sure it would be your desire that we should send a message from this meeting to him in Scotland. The following telegram has been drafted, and if approved will be sent while we are in session :—

> ' Greetings and best wishes from the Officers' Members and Past Members of Council, Registrar and Staff assembled at the Final Quarterly Meeting of Council of the Royal College of Veterinary Surgeons in the Council Chamber, 10, Red Lion Square, on this 30th day of September, 1960.'

(*Agreed.*)

" The original building on this site—which resembled No. 9 in every respect—was first acquired on a lease in 1854 at £60 per year, the necessary repairs to make it habitable costing about £250. It is recorded that in 1855 a ' liberal and spirited soiree given by our esteemed President, Mr. W. Field, was held, at which 150 gentlemen were present, constituting a reunion of a considerable proportion of all that is eminent in the medical and collateral sciences.' I ask you to imagine 150 people in No. 9, and you will know what it would have been like.

" In 1885 the premises had to be hastily evacuated when it was found that the structure was in danger of collapse, and the College was transferred temporarily to 26, Red Lion Square. Then a freehold was bought ; the old building was demolished and rebuilt in 1886 at a cost of £2,133 6s. 8d. in Consols for the site and £3,500 for the new building, which is the one in which we sit to-day. The money was provided out of the small accumulated capital and generous subscriptions of a comparatively few members. Sir Henry Simpson was President at the time of the re-opening.

" In 1939 pressure on space resulted in No. 9 being purchased for an office extension, at a cost of £10,000 for the freehold. Professor G. H. Wooldridge was then the President.

" Following the first information that a new trunk road was to go through Red Lion Square negotiations were completed to buy the adjacent properties of 8, Red Lion Square, and the war-damaged 55, Eagle Street, at a cost of £17,500 for the freeholds. This occurred in the Presidency of Mr. Sumner, and may I say, with all due modesty, when I was Treasurer. The total capital expenditure throughout the century, therefore, was about £33,000. You have already been informed that the whole site has now been sold for £195,000, leaving us without a home from January 9th, 1961.

" There can be little doubt that the acquisition of 8, Red Lion Square and 55, Eagle Street, giving us the frontage to the new road, contributed vastly to the value of the site, and reflects the foresight shown by Council in its decision to invest most of our slender and rapidly depreciating capital investments in that real estate.

" Council decided at its meeting on September 26th, 1956, to appoint a Building Committee of the Officers under the Chairmanship of the then President, Professor Pugh, to whom I pay tribute on behalf of the Royal College for his continuing effort on our behalf over the years in all the problems and negotiations he has had to meet.

" From the professional advice received it appeared at first that a building could be erected on the whole site adequate for the Royal College and with sufficient letting space to provide an income to meet outgoings and redemption of the mortgages which would have been necessary. After a period we found this was not practical, and then we were offered the sum of £45,000 for a part of the site of 8, Red Lion Square, frontage. Building costs have continued to rise ; land values have appreciated, and concern at the financial stake necessary to build, and the heavy outgoings if we did build on this site—estimated at some £6,500 to £8,000 annually—led to the decision again to investigate the market value of the whole site. Finally, it was sold for £195,000.

" The President was very active in these enquiries and negotiations as a member of the Building Committee, to which Sir Laurence Watkinson—whose help has been invaluable—was co-opted. We are greatly indebted, too, to our legal adviser, Mr. Stephens, of Hempsons, and to Mr. Dulake, of Gerald Eve & Co., for their excellent advice.

" Although it may appear that we are now wealthy, we have no home. We have to acquire or build one, and the cost of suitable dignified premises satisfying the special requirements of the R.C.V.S. will be high. There is little hope of ever again living as cheaply as we have done at Red Lion Square, with outgoings in respect of the buildings of just over £2,000 per year.

" For fear misunderstanding should arise in the ranks of the profession, I think it wise to say that our total capital—about £200,000—is even now far too small. Our good furtune must be used with great discretion, not only to provide our new home, but to

The Council and visitors are seen, for the last time, in the historic Chamber.
Photo by courtesy of the Wellcome Foundation.

provide the nucleus of an endowment to help meet the needs of the Royal College to ensure that no unnecessary obstacle is placed in the path of our future development."

Mr. Gould then invited Professor J. G. Wright to recall some aspects of veterinary education associated with the College premises in Red Lion Square.

Address by Professor Wright

In the course of his speech Professor Wright said : " There can be little doubt that the most important function of this Royal College has been the control of the educational standards required for entry into the profession. By its Charter of 1844, the College was charged with the examination of the students of the then existing schools of London and Edinburgh and of such other schools as might in the future be affiliated to the College, for admission as Members.

" In this regard the Council has always been deeply sensible of its great responsibility, and it is appropriate at this time when a fundamental change has been made in our examination system, to voice the praise so deservedly due to those who, during the first century of the profession's life laboured so unceasingly to raise its educational standards.

" In 1844 the course of study occupied 2 sessions only ; in 1876 it was extended to 3 years ; in 1895 to 4 years and in 1932 the 5-year course was introduced. With the introduction of registrable veterinary degrees it was a provision of the Act that the Universities concerned should not award such degrees for a course of study of less than 5 years.

" Under the old system the Schools had no direct representation on the Council, as is the case to-day, and teachers had to seek election in the usual way. It speaks well of the good sense of the profession that the Schools, for the greater part, have always had one or more of their teachers on the Council. The Royal Veterinary College has always been particularly well represented, and in the very early days we see the names of Sewell, Spooner, and Beart Simonds. That intellectual giant, Sir John M'Fadyean, was a member of Council for 47 years. His teaching left its mark throughout the world.

" In recent times we remember the names of Hobday, Buxton, and with particular affection—and in quite recent memory—George Wooldridge.

" That great Scot, William Dick, the founder and for many years the Principal of the Royal Dick College of Edinburgh, served on this Council from its inception in 1844 to 1851. Other names that we recall with gratitude from Edinburgh are Thomas Walley, Charnock Bradley, and in recent happy memory, William Mitchell, who retired recently and whom

everyone here remembers with affection. James McCall, the founder of the Glasgow School, served here, as also in more recent times did Whitehouse. William Williams, and his son, William Owen Williams, of the New Veterinary College, Edinburgh, which subsequently became the Veterinary School of Liverpool University, were esteemed members of Council. Another prominent teacher and Council man was John Gamgee, but the school he founded has long ceased to exist.

"With the Dublin College are identified the names of Mettam and Craig, and in more recent years Browne and O'Connor. From Liverpool, Share Jones, Gaiger and Mattinson are recalled.

"It is, I think, appropriate to-day to make a passing reference to the Loveday Committee which was chiefly responsible for the recent changes in our educational system. To-day, as compared with 1940, there is an increase in the number of students in our schools of some 35 per cent., with the development of new schools at Bristol and Cambridge, but what is much more important is that the teachers have increased by over 200 per cent. The standard now set for registrable degrees in this country is a high one, and I would seriously suggest that veterinary degrees are amongst the hardest to obtain.

"I feel that deep sense of sadness that has been expressed by so many that we are leaving this old Red Lion Square—a square that is steeped in the history of this profession. Think of the men who must have walked the pavement outside this building. Why, for a whole century the first contact of all the young people aspiring to become veterinary surgeons has been with the Registrar at this address, 10, Red Lion Square. To us, Red Lion Square has become synonymous with Royal College, a place stamped in the minds, and I think in the hearts, of all of us."

Servants of the Royal College

THE REGISTRAR (Mr. W. G. R. Oates) was next invited to address the meeting. He said: "When a building is destroyed, it is not only the fabric that dies but also the patina of feeling of the people who have lived and worked in it for many generations.

From our walls throughout the College, there look down on us the founders of your profession and the people who worked for the greater glory of their profession in succeeding years. For some of these men this building was the long-desired permanent home they never lived to see; for others of you it has been a familiar place in which you have met, and which it seemed would house the College for many long years. When this building passes, with it will go not only the remembered presence of great men, but also of long years of devoted service by lesser-known men and women. To most of you here present, these halls and corridors are familiar enough as places where you meet from time to time; but to us, your servants, present and departed, they have been of the essence of our daily lives.

"On the wall at the bottom of this Council Chamber appear the names of the Secretaries and Registrars of this College, my predecessors. Gabriel, Cherry and Coates all worked very hard indeed to find a

Mr. G. N. Gould is addressing Council. With him, left to right, are Captain T. M. Mitchell, Mr. W. G. R. Oates, Registrar, Mr. L. Guy Anderson, junior vice-President, and Mr. J. B. White, honorary treasurer.

Photo by courtesy of the Wellcome Foundation.

Professor J. G. Wright addresses the meeting on the College's leading rôle in veterinary education.

Photo by courtesy of the Wellcome Foundation.

suitable permanent home for the College. Gabriel was a man of many parts—veterinarian, medical practitioner and administrator—and he lives, both in the music of his prose (some portion of which I have extracted here for you) and in his portrait in my room. Hill stands with members of an equally solemn Council in an old photograph, proudly posed before the stone doorway of this building, then newly erected. Bullock, in the oil painting now in the Common Room which he can never have thought to see, looks down on you, many of whom he knew well, as you gather here.

" If these men are named and known, there is also the nameless host of those who have served this College and are remembered only by a reference in ancient Minute Books. If, for the servants of this College, both present and past, I make a formal farewell to the use of this building, it is in the spirit and in the hope that the College may prosper and flourish in another building which will enable those who serve to serve even better."

The Senior Past-President

Mr. T. M. MITCHELL (Senior Past-President) said he was asked to speak more particularly of the personalities who had passed through that Chamber during his time, now a period of some 28 years. In the course of his remarks he said : " Professor Wright has referred to Sir John M'Fadyean who was the Father of the Council and sat in the chair occupied by Professor Pugh. I remember the extremely quiet way he expressed himself, how logical he was, with his scientific approach to any problem we had to discuss at the time. Sitting cheek by jowl with Sir John were such giants as Share Jones, Professor Gaiger, Dr. Bradley and a number of others.

" There are others I would like to remember occupying the senior benches—I was at the bottom there. My venerable friend, Henry Locke, whom I am glad to see is with us to-day, Percy Simpson, G. P. Male, John Buxton sitting in the Chair, as he was President when I came fir t. I am not going to list all the names ; they were so far above me in the firmament that I could merely gaze up in wonder.

" One man has been mentioned in passing, the late Dr. Fred Bullock. He was an extraordinary man, smallish, somewhat frail looking, but with an enormous brain, extremely efficient, and withal the kindest of natures. I always remember how he groomed me in the days when there was a prospect of my being elected to the Presidential Chair, and made it so that during my year of office as President I felt considerably more competent than I had thought possible.

" Just a word, too, about the atmosphere which I sensed when I first came to this Royal College as a representative of the profession. These upper benches were crowded with dignitaries, grey hairs, wiseacres, and the lower benches with individuals who had been more recently elected to Council. It seemed that the new boy, in the true Victorian tradition—remember, we were all born in the Victorian era—was expected to be seen and not heard. The debates were always confined to those at the top of the Chamber. But things altered as the years went by, and I remember vividly—I think it was in 1939—two new boys elected that year who had the temerity to occupy the floor at some length and to the astonishment of the gathering. One could almost hear the gasp of astonishment that two ' rookies ' should have the temerity to do this thing. I do not think I dare give you their names ; one was the Director of a Veterinary School of a University, and one a Member of the Loveday Committee, who had just completed their Report on Veterinary Education. (*Laughter and applause.*)

Such was the atmosphere at that time. I am glad to say those two individuals broke the tradition, shall

we say, and since then there has been no inhibition or prohibition, and the atmosphere is a little more genial throughout the Chamber.

"My only regret is that there is not a greater representation of the practising veterinary surgeon on this body. I say this advisedly because I am myself a practising veterinary surgeon; although I have given up active work in that direction I have been practising all my life.

"I look back on the list of Councillors of 1932; more than 50 per cent. of them were actually practising veterinary surgeons; now, I am sorry to say, we are reduced to a mere handful; the electorate could possibly think on that problem."

Visitors' Remarks

The Chairman intimated that Mr. Mitchell's was the last of the formal speeches, and invited general contributions.

Dr. GILL (Australia) said he would like to thank the College for giving him the opportunity of coming there that day. He was a Member of the Royal College, and there were many others in Australia who were members, too. The graduates of the Australian Veterinary School had a strong regard for the College and for 10, Red Lion Square. They would be as sorry as he was that it was necessary to leave this house.

Dr. CAMERON (Canada) said he had been representing the Canadian Veterinary Society at the British Veterinary Association, and it was an extension of his brief to represent the Canadian society that day. They, in Canada, were still homeless, but were divided into 10 separate parts, which made their problem different. The Canadian Veterinary Service started under the influence of the Edinburgh School, as so many other good things had started; it dated back to the Northern capital. It had progressed since then; it was still progressing, and he hoped would in due course occupy a stature to compare favourably with that in Great Britain.

Professor C. OTTAWAY: "I came here as a student, and looked with great interest at those who were members of the profession I was about to enter. I looked on as an academic, and finally as a member of Council; and this very morning, while you were engaged at your Council meeting, I had the pleasure of paying my last respects to this College building, and I do so now formally."

Professor P. MULLANEY: "I could not allow this occasion to pass—as one of the oldest representatives of the profession in Ireland—without paying my respects to the Royal College. I wish you, Sir, and all the members here to know that through all our difficulties—and we have many—we always rely on the Royal College to guide us and be patient with us. I can assure you that is our attitude now and will be our attitude in the future when you move away from 10, Red Lion Square."

Mr. GOULD, from the chair, thanked all those who had spoken, expressed the good wishes of the Council to their guests, and then led the company in to luncheon.

The Victoria Veterinary Benevolent Fund

A meeting of the Council of the Victoria Veterinary Benevolent Fund was held at 10, Red Lion Square, London, W.C.1, on June 28th, when the following members were present:—

Mr. H. W. Dawes (President) in the chair, Mr. H. E. Bywater, Major J. J. Dunlop, Mr. E. Clark, Mrs. M. Field, Mr. R. C. U. Fisher, Mrs. D. I. Glover, Mr. A. A. Lamont, Professor J. McCunn, Miss V. Tillemont-Thomason, Captain Wm. Watt and Mr. E. Wilkinson.

In attendance: Mr. R. V. Thatcher (Solicitor) and the Secretary, Mr. C. W. Francis.

Minutes

The Minutes of the previous meeting held on April 21st, 1960, having been published in THE VETERINARY RECORD, were taken as read and signed as correct.

Apologies for Absence

Apologies for absence were received from the following: Messrs. G. Atkinson, E. P. Barrett, John A. Flynn, Professor C. Formston, Mr. J. M. Ingram, Professor R. Lovell, Mr. D. H. L. Madden, Professor L. P. Pugh, Captain A. Whicher, Mr. H. M. Wilson and Major W. H. Wortley.

Correspondence

Major J. Harrison Bequest. The secretary submitted a letter from Messrs. Tomkins & Bowes, solicitors, Bexhill on Sea, stating that the executors had now decided to convey the freehold land at Ditchling to the Fund.

It was resolved

(a) That this matter be referred to Mr. R. V. Thatcher, and that Messrs. Tomkins & Bowes be informed accordingly.

(b) That Messrs. R. H. & R. W. Clutton, chartered surveyors, be written to in regard to the disposal of this land.

Investments

The treasurer reported that as the sum of £547 17s. 5d. had accumulated in the Donations Account, he had with the concurrence of the President and hon. secretary caused this sum to be invested in the purchase of £640 11s. British Electricity 4¼ per cent. Guaranteed Stock, 1974/79. *It was resolved* that the action of the officers be confirmed.

Accountant's Report

The secretary presented the following report which was approved, a vote of thanks being accorded to the respective donors:—

Since the previous quarterly meeting, the following donations had been received:—

Accountant's Report

The following donations have been received since the previous meeting of Council:—

	£ s. d.	£ s. d.
Donations		
Clarke-Williams, P. R.	10 6	
Cruft's Show Committee	15 15 0	
Guildford, Woking & Haslemere Canine Society	2 2 0	
Lakeland Division (Dinner/Dance)	16 0 0	
McKay, W. M.	14 0	
Royal (Dick) Veterinary Students Committee (proceeds of Annual Ball)	7 0 0	
Serth, G. W.	2 12 6	
Southern Counties Veterinary Society	10 10 0	
Spicer, A.	13 6 9	
Wright, J. G.	5 5 0	
		73 15 9
Collecting Boxes		
Association of Veterinary Teachers & Research Workers	8 0 10	
Association of Veterinary Teachers & Research Workers (Scottish Regional Group)	2 10 0	
Central Veterinary Society (3 meetings)	9 11 6	
Dumfries & Galloway Division ...	5 17 0	
Essex Veterinary Society ...	1 15 0	
Madden, D. H. L.	5 0 0	
Mid-West Veterinary Association	9 2 0	
Scottish Branch, B.V.A.	3 17 0	
		45 13 4
		£119 9 1

Freehold Land at Winkton, Nr. Christchurch

The President, in his capacity as chairman of the Wortley Axe sub-committee reported that at a meeting of this committee held earlier that day, the members were perturbed with the contents of the Charity Commissioners' letter of May 19th, of which members had been supplied with a copy and unanimously decided that the council should in its reply state that the offer made to the Trustees of the Mary Elizabeth Dacome Homes of Rest on April 30th was based on an independent valuation obtained from Messrs. W. H. Willoughby & Sons, chartered surveyors, Bournemouth, whom the Council considered it advisable to employ, and that a copy of their report be sent to the Commissioners.

Furthermore, it be made known to the Commissioners that the Council are definitely of the opinion that if negotiations are to be continued, the cost of providing the new road and all the essential services, *i.e.* drains, gas, water and electricity, must be apportioned equally between the purchasers of the eight plots and included with the purchase price of the land.

It was resolved that the report of the Wortley Axe sub-committee be received and adopted, and that the reply to the Charity Commissioners' letter of May 19th, incorporating the views of the meeting, be left in the hands of the solicitor and the secretary.

Cases

The following cases were submitted for review:—

No. 132. Wife, aged 61. M.R.C.V.S., an invalid. Three children, all married and unable to help. Receiving grant of £2 per week.

No. 240. Daughter of late member, aged 64. Income: N.I. pension and legacy of £1 per week. Receiving grant of £2 per week.

No. 265. Widow, aged 70. Son, aged 33; daughter, aged 39, ward sister, who contributes towards the home. Receiving grant of £2 per week.

No. 305. Widow, aged 63, 2 sons and 3 daughters, all married except younger son, aged 36, for whom she keeps house. Receiving grant of £2 per week.

No. 304. M.R.C.V.S., aged 61. In delicate health. Son, aged 34, and 2 daughters, aged 27 and 16. The secretary, having submitted recent correspondence in this case, the meeting decided that a further visit be made to this member; in the meantime the present grant of £2 per week be continued.

No. 328. Widow, aged 56. Three sons and two daughters. Youngest son at school. Receiving grant of 30s. per week.

It was resolved that the grants in the above cases be extended for another year, when they be further reviewed.

No. 334. Widow, aged 70. A report from the executive committee giving particulars of the action taken in this case was approved and it was agreed that the grant of £3 10s. per week be continued until the next meeting.

No. 335. Widow, aged 52, 2 sons, ages 22 and 16 (at public school). Receiving temporary grant of £3 per week.

It was resolved that the offer of a member of council to undertake a further visit to this recipient be approved and that her report be submitted to the executive committee, with power to act.

No. 336. Widow, aged 80. The secretary reported that he had ascertained from the National Assistance Board that a grant not exceeding 15s. per week could be made in this case without upsetting their allowance and that the executive committee, to whom the Council referred this case at its last meeting, with power to act, had accordingly authorised such a grant, to operate as from May 1st.

No. 337. Daughter of late member, aged 44. Child, aged 5. The action of the executive committee in making a special payment of £25 to this applicant, following the receipt of a report from a member of Council, was approved. The meeting, however, decided that no further financial assistance be given in this case.

No. 339. Widow, aged 36. Husband died in Nigeria in June, 1959. Two children, son, aged 3, and daughter (blind), aged 9. No income. Widow hopes to obtain an appointment in September as a teacher. In view of the circumstances of this case, the chairman reported that the executive committe had made a temporary grant of £6 per week as from May 1st.

It was resolved that the action of the executive committee be approved and that the grant be continued until the next meeting when the case be further considered.

No. 340. M.R.C.V.S., aged 73. Unable to obtain employment owing to his age. In view of this member's financial circumstances the executive committee on May 26th made a special gift of £10, for clothing, etc., which was approved. It was further decided, now that he is receiving assistance from the National Assistance Board, that the secretary should ascertain from the Board what further help could be given without upsetting their allowance to this member and report to the executive committee who shall be empowered to take appropriate action.

No. 341. M.R.C.V.S., aged 86. Crippled with arthritis, and wife bedridden in nursing home. Son (married) also a permanent invalid. Daughter helping to support the home. In view of the applicant's financial circumstances, *it was resolved* that a grant of £3 per week be made.

No. 342. Widow, aged 85. Suffers with heart trouble. Has married daughter, aged 49 (also in delicate health) living with her. The secretary was instructed to send a form of application to the daughter, on completion of which the case be referred to the executive committee, with power to act.

Date of Next Meeting

The date of the next meeting was left in the hands of the executive officers.

Opening of the Wellcome Laboratory at the University of Glasgow

ON October 4th, Sir Henry Dale, recently retired Chairman of the Wellcome Trust, accompanied by Sir John Boyd and Dr. Green, Scientific Secretary of the Trust, formally opened the Wellcome Laboratory which has been erected with the aid of a grant from the Board of Trustees at the University of Glasgow Veterinary Hospital. The unit has been designed to provide facilities for members of the medical and veterinary schools in Glasgow University to enable them to carry out research into problems in the broad field of medical science relating to disease of man and animals, or to the investigation of fundamental factors which may be important in causing disease. Sir Henry Dale was introduced by the Vice-Chancellor of the University, Sir Hector Hetherington, who expressed the view that no one was better qualified by his past experience to officiate at the opening ceremony than Sir Henry, whose reputation was national and international and who had spent a lifetime in research work of the type which would be carried out in the new building. Sir Henry expressed great pleasure that it was possible for him to accept the invitation to open formally the new building, and the following are excerpts from his speech.

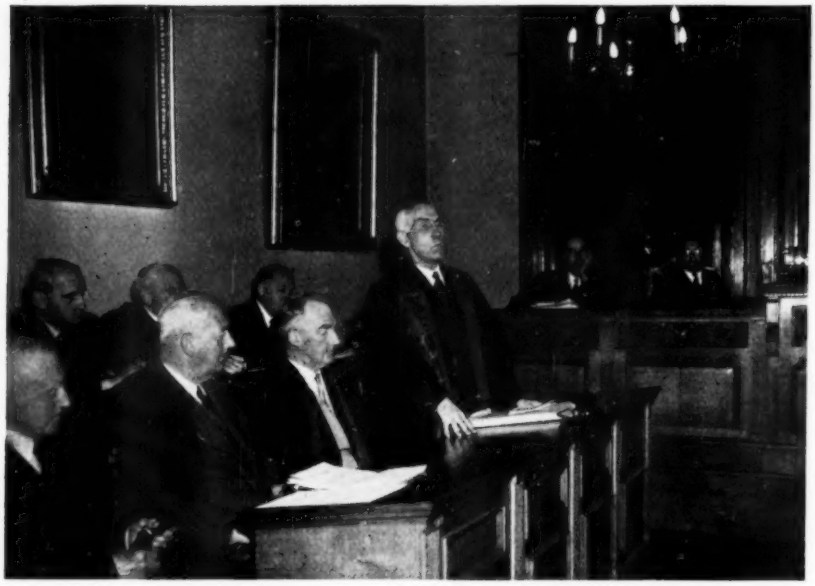
"Sir Henry Wellcome had no heir to whom he could leave his property in the great pharmaceutical enterprise of which, while he lived, he had chosen to remain the sole owner. So he left all the shares in it to the board of charitable trustees with his direction to use the dividends which they received for the general purposes which I have mentioned. Henry Wellcome's detailed indication in his will of the range of the researches in medicine and in the ancillary scientific disciplines which he himself had in view, not so many years ago, for support by his trustees, seems almost prophetic in his vision of what was to come and is now already to so great an extent here with us. . . .

"I ask you to notice particularly in connexion with the purpose of our meeting here to-day that Sir Henry Wellcome's indications included the protection and benefit of animal, even of plant life, as well as of human life, among the objects of the researches which he had already envisaged as suitable for the support by the trustees of his will. Perhaps it would be stretching our interpretation of the words in the will, even beyond the proper limit of their legal meaning, to suggest that he intended to recognise the important possibility of reciprocal advantages to human and veterinary medicine and surgery alike which might come from the support of researches appropriate to either of these fields of specialist knowledge. I must confess that for many years, through all the period of my own activities in research and still in that of my already fairly long research experience as a mere onlooker, I have myself been an enthusiast for the special value to be expected for the advancement of scientific knowledge and its application in the general field of medicine from such co-operation and such reciprocal fertilisation of our ideas as is here envisaged and encouraged between researches in human and in veterinary medicine.

"I took a part, I seem to remember, at that very early stage when the viruses were first coming above the horizon, as it were, in the plea which we made to the Medical Research Council, that we should begin with a well-known and important disease of animals and one which was believed to be due to such a virus, so that we could freely learn methods and devise methods and gain experience by deliberate experiment and then hold the knowledge ready for such uses as might become practicable and legitimate when opportunity occurred for the study of some human disease which similarly appeared to be due to one of these, still then, mysterious invisible and ultramicroscopic viruses. Fortune was undoubtedly on our side; we chose dog distemper for the animal virus disease and a team, headed by my late friend of many years, and very distinguished colleague, the late Sir Patrick Laidlaw, with expert and intimate co-operation on the veterinary side from the late Major George Dunkin, used the ferret as an experimental subject highly susceptible to dog distemper, readily bred and kept in large numbers under experimental laboratory conditions. We succeeded in isolating the distemper virus and showed that an effective protective inoculum could be prepared for it. So there was positive gain, even for the owners and lovers of dogs. I am sure that Professor Weipers will confirm that the use of the vaccine which they then introduced against distemper has changed the whole picture as regards distemper being a danger to all young dogs as it formerly was.

"Far more important I think than that was what happened when the next epidemic of human influenza came along. Again a team under Sir Patrick Laidlaw, reinforced by several able and younger recruits, was ready with methods and experience gained in the distemper study and, even more important perhaps, the ferret, still available for trial and perhaps the only perfectly clean and artificially bred stud of ferrets in the country, was found to be also highly susceptible to infection by the virus obtainable in cases of human influenza. In fact, it was the only animal in the laboratory which was so readily liable to that infection and which enabled the problem to be studied so that human influenza might, partly at any rate and largely, I think, as a result of the preliminary veterinary investigation of dog distemper, be brought immediately within the result of experimental investigation. With the rest of my colleagues, I became more than ever an enthusiast for co-operation between the experts in human and veterinary medicine.

"So it has given me, and indeed is still giving me, Mr. Principal, particular pleasure and satisfaction to have some contact with what I suppose is the first project in a British University which has provided specially for such regular, organised, medical and veterinary co-operation in research. You may be sure that it has given special satisfaction to the Wellcome Trustees to have been given the opportunity of giving a material contribution to such an enter-



Professor J. G. Wright addresses the meeting on the College's leading rôle in veterinary education.

Photo by courtesy of the Wellcome Foundation.

suitable permanent home for the College. Gabriel was a man of many parts—veterinarian, medical practitioner and administrator—and he lives, both in the music of his prose (some portion of which I have extracted here for you) and in his portrait in my room. Hill stands with members of an equally solemn Council in an old photograph, proudly posed before the stone doorway of this building, then newly erected. Bullock, in the oil painting now in the Common Room which he can never have thought to see, looks down on you, many of whom he knew well, as you gather here.

" If these men are named and known, there is also the nameless host of those who have served this College and are remembered only by a reference in ancient Minute Books. If, for the servants of this College, both present and past, I make a formal farewell to the use of this building, it is in the spirit and in the hope that the College may prosper and flourish in another building which will enable those who serve to serve even better."

The Senior Past-President

Mr. T. M. MITCHELL (Senior Past-President) said he was asked to speak more particularly of the personalities who had passed through that Chamber during his time, now a period of some 28 years. In the course of his remarks he said : " Professor Wright has referred to Sir John M'Fadyean who was the Father of the Council and sat in the chair occupied by Professor Pugh. I remember the extremely quiet way he expressed himself, how logical he was, with his scientific approach to any problem we had to discuss at the time. Sitting cheek by jowl with Sir John were such giants as Share Jones, Professor Gaiger, Dr. Bradley and a number of others.

" There are others I would like to remember occupying the senior benches—I was at the bottom there. My venerable friend, Henry Locke, whom I am glad to see is with us to-day, Percy Simpson, G. P. Male, John Buxton sitting in the Chair, as he was President when I came fir t. I am not going to list all the names ; they were so far above me in the firmament that I could merely gaze up in wonder.

" One man has been mentioned in passing, the late Dr. Fred Bullock. He was an extraordinary man, smallish, somewhat frail looking, but with an enormous brain, extremely efficient, and withal the kindest of natures. I always remember how he groomed me in the days when there was a prospect of my being elected to the Presidential Chair, and made it so that during my year of office as President I felt considerably more competent than I had thought possible.

" Just a word, too, about the atmosphere which I sensed when I first came to this Royal College as a representative of the profession. These upper benches were crowded with dignitaries, grey hairs, wiseacres, and the lower benches with individuals who had been more recently elected to Council. It seemed that the new boy, in the true Victorian tradition—remember, we were all born in the Victorian era—was expected to be seen and not heard. The debates were always confined to those at the top of the Chamber. But things altered as the years went by, and I remember vividly—I think it was in 1939—two new boys elected that year who had the temerity to occupy the floor at some length and to the astonishment of the gathering. One could almost hear the gasp of astonishment that two ' rookies ' should have the temerity to do this thing. I do not think I dare give you their names ; one was the Director of a Veterinary School of a University, and one a Member of the Loveday Committee, who had just completed their Report on Veterinary Education. (*Laughter and applause.*)

Such was the atmosphere at that time. I am glad to say those two individuals broke the tradition, shall

we say, and since then there has been no inhibition or prohibition, and the atmosphere is a little more genial throughout the Chamber.

"My only regret is that there is not a greater representation of the practising veterinary surgeon on this body. I say this advisedly because I am myself a practising veterinary surgeon; although I have given up active work in that direction I have been practising all my life.

"I look back on the list of Councillors of 1932; more than 50 per cent. of them were actually practising veterinary surgeons; now, I am sorry to say, we are reduced to a mere handful; the electorate could possibly think on that problem."

Visitors' Remarks

The Chairman intimated that Mr. Mitchell's was the last of the formal speeches, and invited general contributions.

Dr. GILL (Australia) said he would like to thank the College for giving him the opportunity of coming there that day. He was a Member of the Royal College, and there were many others in Australia who were members, too. The graduates of the Australian Veterinary School had a strong regard for the College and for 10, Red Lion Square. They would be as sorry as he was that it was necessary to leave this house.

Dr. CAMERON (Canada) said he had been representing the Canadian Veterinary Society at the British Veterinary Association, and it was an extension of his brief to represent the Canadian society that day. They, in Canada, were still homeless, but were divided into 10 separate parts, which made their problem different. The Canadian Veterinary Service started under the influence of the Edinburgh School, as so many other good things had started; it dated back to the Northern capital. It had progressed since then; it was still progressing, and he hoped would in due course occupy a stature to compare favourably with that in Great Britain.

Professor C. OTTAWAY: "I came here as a student, and looked with great interest at those who were members of the profession I was about to enter. I looked on as an academic, and finally as a member of Council; and this very morning, while you were engaged at your Council meeting, I had the pleasure of paying my last respects to this College building, and I do so now formally."

Professor P. MULLANEY: "I could not allow this occasion to pass—as one of the oldest representatives of the profession in Ireland—without paying my respects to the Royal College. I wish you, Sir, and all the members here to know that through all our difficulties—and we have many—we always rely on the Royal College to guide us and be patient with us. I can assure you that is our attitude now and will be our attitude in the future when you move away from 10, Red Lion Square."

Mr. GOULD, from the chair, thanked all those who had spoken, expressed the good wishes of the Council to their guests, and then led the company in to luncheon.

The Victoria Veterinary Benevolent Fund

A meeting of the Council of the Victoria Veterinary Benevolent Fund was held at 10, Red Lion Square, London, W.C.1, on June 28th, when the following members were present:—

Mr. H. W. Dawes (President) in the chair, Mr. H. E. Bywater, Major J. J. Dunlop, Mr. E. Clark, Mrs. M. Field, Mr. R. C. U. Fisher, Mrs. D. I. Glover, Mr. A. A. Lamont, Professor J. McCunn, Miss V. Tillemont-Thomason, Captain Wm. Watt and Mr. E. Wilkinson.

In attendance: Mr. R. V. Thatcher (Solicitor) and the Secretary, Mr. C. W. Francis.

Minutes

The Minutes of the previous meeting held on April 21st, 1960, having been published in THE VETERINARY RECORD, were taken as read and signed as correct.

Apologies for Absence

Apologies for absence were received from the following: Messrs. G. Atkinson, E. P. Barrett, John A. Flynn, Professor C. Formston, Mr. J. M. Ingram, Professor R. Lovell, Mr. D. H. L. Madden, Professor L. P. Pugh, Captain A. Whicher, Mr. H. M. Wilson and Major W. H. Wortley.

Correspondence

Major J. Harrison Bequest. The secretary submitted a letter from Messrs. Tomkins & Bowes, solicitors, Bexhill on Sea, stating that the executors had now decided to convey the freehold land at Ditchling to the Fund.

It was resolved

(a) That this matter be referred to Mr. R. V. Thatcher, and that Messrs. Tomkins & Bowes be informed accordingly.

(b) That Messrs. R. H. & R. W. Clutton, chartered surveyors, be written to in regard to the disposal of this land.

Investments

The treasurer reported that as the sum of £547 17s. 5d. had accumulated in the Donations Account, he had with the concurrence of the President and hon. secretary caused this sum to be invested in the purchase of £640 11s. British Electricity 4¼ per cent. Guaranteed Stock, 1974/79. *It was resolved* that the action of the officers be confirmed.

Accountant's Report

The secretary presented the following report which was approved, a vote of thanks being accorded to the respective donors:—

Since the previous quarterly meeting, the following donations had been received:—

Accountant's Report

The following donations have been received since the previous meeting of Council:—

	£	s.	d.	£	s.	d.
Donations						
Clarke-Williams, P. R.		10	6			
Cruft's Show Committee	15	15	0			
Guildford, Woking & Haslemere Canine Society	2	2	0			
Lakeland Division (Dinner/Dance)	16	0	0			
McKay, W. M.		14	0			
Royal (Dick) Veterinary Students Committee (proceeds of Annual Ball)	7	0	0			
Serth, G. W.	2	12	6			
Southern Counties Veterinary Society	10	10	0			
Spicer, A.	13	6	9			
Wright, J. G.	5	5	0			
				73	15	9
Collecting Boxes						
Association of Veterinary Teachers & Research Workers	8	0	10			
Association of Veterinary Teachers & Research Workers (Scottish Regional Group)	2	10	0			
Central Veterinary Society (3 meetings)	9	11	6			
Dumfries & Galloway Division ...	5	17	0			
Essex Veterinary Society ...	1	15	0			
Madden, D. H. L.	5	0	0			
Mid-West Veterinary Association	9	2	0			
Scottish Branch, B.V.A.	3	17	0			
				45	13	4
				£119	9	1

Freehold Land at Winkton, Nr. Christchurch

The President, in his capacity as chairman of the Wortley Axe sub-committee reported that at a meeting of this committee held earlier that day, the members were perturbed with the contents of the Charity Commissioners' letter of May 19th, of which members had been supplied with a copy and unanimously decided that the council should in its reply state that the offer made to the Trustees of the Mary Elizabeth Dacome Homes of Rest on April 30th was based on an independent valuation obtained from Messrs. W. H. Willoughby & Sons, chartered surveyors, Bournemouth, whom the Council considered it advisable to employ, and that a copy of their report be sent to the Commissioners.

Furthermore, it be made known to the Commissioners that the Council are definitely of the opinion that if negotiations are to be continued, the cost of providing the new road and all the essential services, *i.e.* drains, gas, water and electricity, must be apportioned equally between the purchasers of the eight plots and included with the purchase price of the land.

It was resolved that the report of the Wortley Axe sub-committee be received and adopted, and that the reply to the Charity Commissioners' letter of May 19th, incorporating the views of the meeting, be left in the hands of the solicitor and the secretary.

Cases

The following cases were submitted for review:—

No. 132. Wife, aged 61. M.R.C.V.S., an invalid. Three children, all married and unable to help. Receiving grant of £2 per week.

No. 240. Daughter of late member, aged 64. Income: N.I. pension and legacy of £1 per week. Receiving grant of £2 per week.

No. 265. Widow, aged 70. Son, aged 33; daughter, aged 39, ward sister, who contributes towards the home. Receiving grant of £2 per week.

No. 305. Widow, aged 63, 2 sons and 3 daughters, all married except younger son, aged 36, for whom she keeps house. Receiving grant of £2 per week.

No. 304. M.R.C.V.S., aged 61. In delicate health. Son, aged 34, and 2 daughters, aged 27 and 16. The secretary, having submitted recent correspondence in this case, the meeting decided that a further visit be made to this member; in the meantime the present grant of £2 per week be continued.

No. 328. Widow, aged 56. Three sons and two daughters. Youngest son at school. Receiving grant of 30s. per week.

It was resolved that the grants in the above cases be extended for another year, when they be further reviewed.

No. 334. Widow, aged 70. A report from the executive committee giving particulars of the action taken in this case was approved and it was agreed that the grant of £3 10s. per week be continued until the next meeting.

No. 335. Widow, aged 52, 2 sons, ages 22 and 16 (at public school). Receiving temporary grant of £3 per week.

It was resolved that the offer of a member of council to undertake a further visit to this recipient be approved and that her report be submitted to the executive committee, with power to act.

No. 336. Widow, aged 80. The secretary reported that he had ascertained from the National Assistance Board that a grant not exceeding 15s. per week could be made in this case without upsetting their allowance and that the executive committee, to whom the Council referred this case at its last meeting, with power to act, had accordingly authorised such a grant, to operate as from May 1st.

No. 337. Daughter of late member, aged 44. Child, aged 5. The action of the executive committee in making a special payment of £25 to this applicant, following the receipt of a report from a member of Council, was approved. The meeting, however, decided that no further financial assistance be given in this case.

No. 339. Widow, aged 36. Husband died in Nigeria in June, 1959. Two children, son, aged 3, and daughter (blind), aged 9. No income. Widow hopes to obtain an appointment in September as a teacher. In view of the circumstances of this case, the chairman reported that the executive committe had made a temporary grant of £6 per week as from May 1st.

It was resolved that the action of the executive committee be approved and that the grant be continued until the next meeting when the case be further considered.

No. 340. M.R.C.V.S., aged 73. Unable to obtain employment owing to his age. In view of this member's financial circumstances the executive committee on May 26th made a special gift of £10, for clothing, etc., which was approved. It was further decided, now that he is receiving assistance from the National Assistance Board, that the secretary should ascertain from the Board what further help could be given without upsetting their allowance to this member and report to the executive committee who shall be empowered to take appropriate action.

No. 341. M.R.C.V.S., aged 86. Crippled with arthritis, and wife bedridden in nursing home. Son (married) also a permanent invalid. Daughter helping to support the home. In view of the applicant's financial circumstances, *it was resolved* that a grant of £3 per week be made.

No. 342. Widow, aged 85. Suffers with heart trouble. Has married daughter, aged 49 (also in delicate health) living with her. The secretary was instructed to send a form of application to the daughter, on completion of which the case be referred to the executive committee, with power to act.

Date of Next Meeting

The date of the next meeting was left in the hands of the executive officers.

Opening of the Wellcome Laboratory at the University of Glasgow

ON October 4th, Sir Henry Dale, recently retired Chairman of the Wellcome Trust, accompanied by Sir John Boyd and Dr. Green, Scientific Secretary of the Trust, formally opened the Wellcome Laboratory which has been erected with the aid of a grant from the Board of Trustees at the University of Glasgow Veterinary Hospital. The unit has been designed to provide facilities for members of the medical and veterinary schools in Glasgow University to enable them to carry out research into problems in the broad field of medical science relating to disease of man and animals, or to the investigation of fundamental factors which may be important in causing disease. Sir Henry Dale was introduced by the Vice-Chancellor of the University, Sir Hector Hetherington, who expressed the view that no one was better qualified by his past experience to officiate at the opening ceremony than Sir Henry, whose reputation was national and international and who had spent a lifetime in research work of the type which would be carried out in the new building. Sir Henry expressed great pleasure that it was possible for him to accept the invitation to open formally the new building, and the following are excerpts from his speech.

"Sir Henry Wellcome had no heir to whom he could leave his property in the great pharmaceutical enterprise of which, while he lived, he had chosen to remain the sole owner. So he left all the shares in it to the board of charitable trustees with his direction to use the dividends which they received for the general purposes which I have mentioned. Henry Wellcome's detailed indication in his will of the range of the researches in medicine and in the ancillary scientific disciplines which he himself had in view, not so many years ago, for support by his trustees, seems almost prophetic in his vision of what was to come and is now already to so great an extent here with us. . . .

"I ask you to notice particularly in connexion with the purpose of our meeting here to-day that Sir Henry Wellcome's indications included the protection and benefit of animal, even of plant life, as well as of human life, among the objects of the researches which he had already envisaged as suitable for the support by the trustees of his will. Perhaps it would be stretching our interpretation of the words in the will, even beyond the proper limit of their legal meaning, to suggest that he intended to recognise the important possibility of reciprocal advantages to human and veterinary medicine and surgery alike which might come from the support of researches appropriate to either of these fields of specialist knowledge. I must confess that for many years, through all the period of my own activities in research and still in that of my already fairly long research experience as a mere onlooker, I have myself been an enthusiast for the special value to be expected for the advancement of scientific knowledge and its application in the general field of medicine from such co-operation and such reciprocal fertilisation of our ideas as is here envisaged and encouraged between researches in human and in veterinary medicine.

"I took a part, I seem to remember, at that very early stage when the viruses were first coming above the horizon, as it were, in the plea which we made to the Medical Research Council, that we should begin with a well-known and important disease of animals and one which was believed to be due to such a virus, so that we could freely learn methods and devise methods and gain experience by deliberate experiment and then hold the knowledge ready for such uses as might become practicable and legitimate when opportunity occurred for the study of some human disease which similarly appeared to be due to one of these, still then, mysterious invisible and ultramicroscopic viruses. Fortune was undoubtedly on our side; we chose dog distemper for the animal virus disease and a team, headed by my late friend of many years, and very distinguished colleague, the late Sir Patrick Laidlaw, with expert and intimate co-operation on the veterinary side from the late Major George Dunkin, used the ferret as an experimental subject highly susceptible to dog distemper, readily bred and kept in large numbers under experimental laboratory conditions. We succeeded in isolating the distemper virus and showed that an effective protective inoculum could be prepared for it. So there was positive gain, even for the owners and lovers of dogs. I am sure that Professor Weipers will confirm that the use of the vaccine which they then introduced against distemper has changed the whole picture as regards distemper being a danger to all young dogs as it formerly was.

"Far more important I think than that was what happened when the next epidemic of human influenza came along. Again a team under Sir Patrick Laidlaw, reinforced by several able and younger recruits, was ready with methods and experience gained in the distemper study and, even more important perhaps, the ferret, still available for trial and perhaps the only perfectly clean and artificially bred stud of ferrets in the country, was found to be also highly susceptible to infection by the virus obtainable in cases of human influenza. In fact, it was the only animal in the laboratory which was so readily liable to that infection and which enabled the problem to be studied so that human influenza might, partly at any rate and largely, I think, as a result of the preliminary veterinary investigation of dog distemper, be brought immediately within the result of experimental investigation. With the rest of my colleagues, I became more than ever an enthusiast for co-operation between the experts in human and veterinary medicine.

"So it has given me, and indeed is still giving me, Mr. Principal, particular pleasure and satisfaction to have some contact with what I suppose is the first project in a British University which has provided specially for such regular, organised, medical and veterinary co-operation in research. You may be sure that it has given special satisfaction to the Wellcome Trustees to have been given the opportunity of giving a material contribution to such an enter-

prise. Perhaps I may add, for myself, that I was particularly glad to hear that the new building, which is now being formally opened, had been completed and had begun to be used before I myself recently retired from the Chair of the Wellcome Trust. However I am still glad to have the opportunity of sharing the interests and am available for consultation with my good colleague, Sir John Boyd, and the others who are still trustees."

The Principal

Professor Weipers conveyed the thanks of the University for this magnificent gift. He said " . . . Glasgow University is over 500 years old, its Medical School is over 200 years old. The Veterinary School, while soon due to celebrate its centenary, has only been within the University 11 years, a little longer than the University Dental School. The bringing together within the University framework of these three aspects of medical research has done much to broaden university interest in the field of medical science and, indeed, biological science, and has quickened an interest in research into fundamental problems of disease.

" The close association between medicals and veterinarians within the Medical Faculty, and our common interest in solving some of the disease problems in man and animals, have been paramount in developing the work which is housed in the Wellcome Building. Early on, it became clear that medicals and veterinarians had something to contribute, arising from their own special training and experience, to the the common good.

" Some limited accommodation for problems which required a surgical approach was at first found in the Veterinary School but the demand rapidly outgrew the space and, at this stage, an approach was made to your Trustees. From the start you, Sir Henry, and your colleagues took a great interest in our work and it soon appeared that our broad interest in medical science, as it affects man and animals, was in close parallel with your own and, indeed, with the aims and foundations of the Trust.

" It is a good biological concept that structure and function are closely related and modify each other. In this unit we gave a structure designed to fulfil a functional need. The very existence of this unit and its specific structure will continue to influence some aspects of medical science in this University. It will provide a place where medicals and veterinarians will have opportunities for studying problems, many not as yet defined, and will provide a continuity of interests in related problems long after more formal ties have parted. Magnificent buildings do not guarantee that high quality research work will be achieved but many of the problems facing surgeons to-day are being solved and are likely to continue being solved in the future, by the application of complex techniques that have become possible because of advances in the physical science and often depend on intricate scientific equipment.

" The type of research work carried out in Professor Mackey's and Professor Illingworth's departments may require the assistance of the light engineering and, indeed occasionally, even the heavy engineering industries; anything from pressure chambers which can house a complete operating theatre to the most tricate pumping, perfusing and electronic equipment, may be required. Thus this excellently constructed and equipped unit will make it possible to carry out investigations into the disease problems in man and animals in a way, and in a field, that would not otherwise be possible. Many foundations and granting bodies, while willing to assist with research projects, are reluctant to provide permanent buildings to Universities, but it is this very quality in the Trustees' benefaction which I think is so important. Programmes will change, but there is little reason to believe that investigations into disease problems will return to the simple days of Louis Pasteur or to the stage of one text-book on a mantelpiece supplying the only equipment necessary for the pursuit of a research project; but a building such as this, no doubt modified and enlarged in due course, will go on in perpetuity enabling contributions to be made to new knowledge which will be applied to the relief of suffering in man and animals."

Animal Health Trust Luncheon

An Important Discovery Announced

The results, to date, of a piece of research which may be of great practical value in the field of human medicine were disclosed by Dr. W. R. Wooldridge, Scientific Director of the Animal Health Trust at a luncheon on October 17th, at the Hyde Park Hotel, London. The guest of honour was the Minister of Agriculture, and the President of the Trust, the Duke of Norfolk, was in the chair. The purpose of the luncheon was to give an account of the Trust's progress, and this was heard with close attention by a very large and distinguished company which included:—

Mr. Sydney Jennings (President, British Veterinary Association), the Hon. J. J. Astor, Dr. D. W. Adamson (Director of Research, Wellcome Foundation), W. G. Agnew, Esq., C.V.O. (Clerk of Privy Council), Mr. L. Guy Anderson (Vice-President, Royal College of Veterinary Surgeons), Mr. W. G. Oates (Registrar, R.C.V.S.), Dr. E. G. Cox (Secretary, Agricultural Research Council), Sir Humphrey de Trafford, Bart. M.C., the Duke of Devonshire, M.C. (Hon. Treasurer, Animal Health Trust), Sir Henry Dale (Wellcome Trust), Sir Patrick Gower, Dr. R. E. Glover (Principal, Royal Veterinary College, London), Dr. W. S. Gordon (Director, Agricultural Research Council, Compton), Mr. J. K. Knowles (Secretary, National Farmers' Union), Lord Moran, the Earl of Northesk, Lord Rank (Chairman, Executive Committee, Animal Health Trust), Dr. A. W. Stableforth (Director, Veterinary Laboratory, Weybridge, and Chairman, Scientific Advisory Committee, Animal Health Trust), Lord Stamp, Mr. W. R. Trehane (Chairman, Milk Marketing Board), Mr. Harold Woolley, (President, National Farmers' Union), and Sir John Winnifrith (Permanent Secretary, Ministry of Agriculture).

In announcing the new discovery Dr. Wooldridge said: "Arising out of our early investigations into the diseases of foals we began research upon blood groups in the horse. This research led to specialisation in the field of equine haematology and the apparent useless study of the constituents of horses' blood. This work has now in turn resulted in the discovery that one of the white cells of the blood, namely the eosinophil leucocyte, plays an active part in the control of histamine in the body. Histamine is a substance widely distributed in the body in an inactive form, and acts as a protective mechanism particularly against injury. If, however, it is developed in excess it can give rise to surgical or accidental shock, to skin lesions of the nettle rash type, and to such allergies as asthma and hay fever. We have now established that if an excess of histamine is produced locally this is automatically followed by a congregation at that spot of these special white cells. We have, further, been able to show that these cells contain a substance which has potent antihistamine and anti-inflammatory properties. After much careful work involving development of special techniques, it appears that the substance in question will be valuable for the treatment of these various inflammatory, allergic and shock conditions, whilst perhaps influencing the course of chronic arthritis. This provides not only an excellent example of the practical results which may arise from fundamental work for the treatment of animals but also emphasises the fact that veterinary research sometimes produces unsuspected results of great practical value in the field of human medicine."

A statement issued later read: "The Equine Station (of the Animal Health Trust) has at last evolved a technique whereby eosinophils, alive and normal in all respects, can be recovered from the blood in a high degree of purity. As a result of this work, it has now been found possible to make an extract of eosinophil leucocytes containing a substance proved to be more powerfully antihistaminic and anti-inflammatory than any so far discovered. It is in the all-important work of isolating, identifying and final synthetic production of this substance that the veterinary and medical scientists are now co-operating." The medical scientists referred to are those from the Medical Research Council and the National Research Development Council.

The remainder of Dr. Wooldridge's speech was given over to a masterly survey of the Trust's other scientific and educational work, many details of which have been published in THE VETERINARY RECORD in the form of research papers and news items. He mentioned, amid applause, that among those to whom the Trust had made awards for higher education were four scientists who are now university professors.

The Minister of Agriculture

In proposing the toast of the Animal Health Trust Mr. Christopher Soames said that he had found that the duties of a Minister of Agriculture were varied, and he welcomed the opportunity which had been given to him of being present to speak at the lunch that day.

Describing the relationship between the Trust and the Ministry he paid tribute to the co-operation which exists between the two bodies. "Any organisation for animal health," he said, "for which the Ministry is responsible to Parliament must be slower moving than a voluntary organisation such as the Animal Health Trust. The latter can shift in the twinkling of an eye the emphasis to those issues which it considers to be of more immediate importance to the industries concerned and to any new field where research is necessary. Nevertheless, the two organisations could and should be overlapping. If there is competition, so much the better; this is necessary and desirable. In this instance the relationship between the two is very good."

Mr. Soames referred to Balaton Lodge, the Trust's Equine Station, which he said is "unique the world over." He went on to the Farm Livestock Research Centre, which he described as a "wedding of scientific research to practical farming." "I think," he said, "that the scientific aspect of breeding and raising farm animals in which veterinary science plays an important part has lagged a long way behind the advances we have made in other forms of husbandry. Great advances have been made in making two blades of grass grow where one grew before, and in increasing the yield of crops, but no parallel advance has been made in the breeding and management of livestock.

"As a layman I cannot help feeling that certain research institutes and the scientists concerned tend to regard their discoveries in the same way as squirrels regard their nuts. They are loath to part with any information, and make known the results of their research because they want to be 100 per cent. certain that they have finished their work and that their information is complete. They take the attitude, 'Don't let us put it out until we have got the whole story.'"

Mr. Soames appealed for the greater dissemination of such information, making it clear if necessary that the research was incomplete and that there might be some more to add.

"Let us have such information, even if you have not got the whole story, for the practical farmer and the veterinary profession. It would be a great help if research workers published their results earlier and it would assist other workers in the same field."

The Duke of Norfolk

The Duke of Norfolk, emphasising the need of the Minister of Agriculture's support for the Trust, commented on the fact that in his speech to-day the present Minister had revealed that he had the same appreciative attitude towards, and the same approval for, the work of the Animal Health Trust as had been expressed by the Minister in power in 1949. Mr. Tom

Williams. The Duke recalled how Dr. Wooldridge had approached him concerning the Trust more than nineteen years ago. At one time, in order to push forward the research work a substantial bank overdraft had been negotiated. Finance tended to follow results and not precede them; but the early decisions on financial policy had been fully justified, and now that the Trust had justified itself by its work the overdraft had been reduced to quite small proportions.

After praising the work of Dr. Wooldridge the Duke referred to the support which the Trust had received from Lord Rank and expressed his thanks for Lord Rank's far-sighted guidance "under which I feel sure that the future will be bright."

Mr. Harold Woolley, President of the National Farmers' Union, also paid tribute to Lord Rank and to Dr. Wooldridge for their devotion to the task of furthering the work of the Animal Health Trust, and expressed his thanks for the report upon the work of the Trust which had been given by Dr. Wooldridge.

Mr. Woolley spoke of the difficulties under which the Farm Livestock Research Centre worked, having to produce results in the face of the lack of funds. He knew that in order to attract income results have to be forthcoming.

"For the Trust to attract income it must show and appear to show results, which means that it has to build up an atmosphere of confidence and convince the people, farmers in particular, that the work of the Trust is in their interests and that it is a form of investment. We in the National Farmers' Union will do our best to create and build up this atmosphere."

News and Comment

VISIT OF THE PRESIDENT OF THE AUSTRALIAN VETERINARY ASSOCIATION

On October 12th, Mr. D. S. Wishart, President of the Australian Veterinary Association, paid a visit to Headquarters of the British Veterinary Association. He was received at 7 Mansfield Street by the President and Secretary when greetings were exchanged and topics of mutual interest were discussed. During Mr. Wishart's brief stay in Britain he is visiting several veterinary institutions and also some university veterinary schools.

THE THOMAS BAXTER PRIZE, 1960

The committee has decided to award the 1960 prize to Dr. K. L. Blaxter, of the Hannah Dairy Research Institute, Ayr. Dr. Blaxter, incidentally, has been a valued contributor to THE VETERINARY RECORD from time to time and has taken part in various B.V.A. conferences.

UNIVERSITY NEWS

Cambridge

In Cambridge last Saturday at a Full Congregation held in the Senate House, M. H. Fussell, M.A., VET.M.B., M.R.C.V.S., was admitted to the degree of doctor of Philosophy.

Dr. Fussell, whose dissertation was entitled "Studies on the Metabolism of Calcium and Phosphorus in the Hen with particular reference to Absorption and Excretion," was the first veterinary graduate of Cambridge University to be awarded a Ph.D. degree after qualifying.

Dr. Fussell has now joined British Oil & Cake Mills Limited.

Edinburgh

The undermentioned candidates have passed the Final Professional Examination (Part I) in the subject of Veterinary Hygiene for the degree of Bachelor of Veterinary Medicine and Surgery:—

Arbuckle, James B. R.; Bailey, Sheila A.; Bell, Alastair F.; Blake, George; Bulley, Frank R. T.; Coulthwaite, John R.; Davies, Lewis D.; Duncan, Walter D.; Forbes, Derek; Gardner, David W.; Glickman, Murray A.; Hargreaves, Charles E.; Jobling, Terence; Jones, Robert A.; Lambert, Donald R.; Lander, Keith P.; MacIntyre, Gerald C.; Meldrum, Keith C.; Paterson, Robin J.; Rodger, John O. K.; and Wilson, Michael.

THE WELLCOME TRUST

Professor John McMichael, M.D., F.R.C.P., F.R.S., who holds the Chair of Medicine in the University of London at the Post-graduate Medical School Hammersmith, has been appointed a trustee of the Wellcome Trust in place of Sir Henry Dale, O.M., G.B.E., F.R.C.P., F.R.S., who retired from the trusteeship in July, 1960, and was succeeded as Chairman by the Rt. Hon. the Lord Piercy, C.B.E. Professor McMichael's appointment became effective on October 10th, 1960. Sir Henry Dale will continue to serve the Trust in an advisory capacity as scientific consultant.

MR. GEORGE McLEAN REID

J.S. writes:

The untimely death of George McLean Reid brings to his sorrowing family the heartfelt sympathy of all who knew him.

It is only 3 brief years since George, happily contemplating partnership in a London practice, was stricken with tuberculosis. His 2 youngest children, also gravely ill, followed him to hospital. George, with his wife and 3 young children, endured the hardships of illness and want for 10 months before they were again a united and happy family with hopes for the future.

In the late summer of 1958 he joined the firm of G. P. Male and Partners of Reading, where he found congenial work, happy fellowship and bright prospects.

On Sunday afternoon, September 18th, while bathing with friends in the sea at Christchurch, he was drowned.

George Reid was born in the year 1926 at Morham, East Lothian. He was educated at the Knox Academy at Haddington and at the Royal (Dick) Veterinary College where he graduated in 1949. He will be remembered by his

associates as a tall, slim, good-natured youth with a shock of black hair and an always smiling face. His quiet, friendly nature made him easy company and popular with clients, colleagues and everyone he met.

I had the pleasure of his company and his assistance in my practice for almost five years and I have enjoyed his friendship since he qualified.

The profession has lost a kind, good and forthright man.

Many of us, on both sides of the border, have lost a very good friend but the most grievous weight of this stark tragedy falls on his wife and children. It is to this sad family that his large company of friends and our small profession must give comfort and support so that these young people may meet with fortitude the hardships that lie ahead.

N.P.M. writes:

I only knew George Reid for 2 years, but in that short time I recognised him as a true friend and a trusted colleague.

From qualifying at the Dick in 1949 he went to Dundee as an assistant where he specialised in small animals. After several happy years, he decided to enlarge his experience and came South, but, after only a short while in practice in London, he had to give up his work and spent nearly a year in a sanatorium. He made a complete recovery, and joined our firm in Reading in 1958, where he was in charge of the small-animal side of the practice.

By his quiet friendly manner he endeared himself both to his clients, his patients and all those who worked with him. He was most conscientious in all he did and was an excellent surgeon and diagnostician.

Our sincere sympathy goes out to his widow and 3 young children to whom he meant so much. The profession is the poorer for the loss of a delightful personality and a good veterinarian.

THE REGISTER OF VETERINARY SURGEONS

Mr. Frederick Carl Wilkinson, B.V.SC. (SYDNEY), c/o Barrow Hill House, Ashford, Kent, was registered in the Commonwealth List of the Register of Veterinary Surgeons on October 13th, 1960.

PERSONAL

Marriage

POPE—STEELE.—At St. George's Church, Guelph, Ontario, on October 1st, 1960, David Charles Pope, B.VET.MED., M.R.C.V.S., of Potters Bar, Middlesex, to Kathleen Elizabeth Steele, B.A., of Guelph.

Births

TURNER.—On October 13th, 1960, at The Tors, Lapford, Crediton, Devon, to Joan and Barre Turner, B.V.M.S., M.R.C.V.S., a son, Jeremy, brother for Michael.

KYLE.—On October 12th, 1960, to Sybil (*née* Clifford), wife of David Kyle, M.R.C.V.S., Kettering, Northants, a son, David Andrew Ingram.

R.C.V.S. OBITUARY

We record with regret the death of the following members of the profession:—

SMITH, Albert, Rosslyn, 2 Higher Polsham Road, Paignton, S. Devon. Graduated July 11th, 1925, at the School of Veterinary Science, Liverpool. Died October 6th, 1960, aged 60 years.

JENKINS, Francis Henry, 2 Tor-o-Moor Road, Woodhall Spa, Lincs., Lieut. late R.A.V.C. Graduated December 16th, 1890, at the Royal Veterinary College, London. Died October 12th, 1960, aged 94 years.

COMING EVENTS

October

26th (Wed.). WELSH BRANCH. Meeting at the Belle Vue Hotel, Aberystwyth, 2.15 p.m.

STAFFS. AND DERBYS. CLUB. Meeting at the White Hart, Uttoxeter, 8 p.m.

27th (Thurs.). SOCIETY FOR THE STUDY OF ANIMAL BREEDING. Meeting at 1, Wimpole Street, London, W.1, 11.30 a.m.

28th (Fri.). SOUTH WALES DIVISION. Annual Dinner-Dance at the Park Hotel, Cardiff, 8 p.m.

YORKSHIRE VETERINARY SOCIETY. Meeting at the Royal Station Hotel, York, 2.30 p.m.

31st (Mon.). EAST YORKSHIRE CLINICAL CLUB. Meeting at the Talbot Hotel, Malton, 8 p.m.

November

2nd (Wed.). MIDLAND COUNTIES VETERINARY ASSOCIATION. Joint Meeting with the Midland Medical Society Section, at the Birmingham Medical Institute, 36 Harbourne Road, Edgbaston, Birmingham, 15, 8.30 p.m.

3rd (Thurs.). CENTRAL VETERINARY SOCIETY. Meeting at the Royal Veterinary College, Camden Town, N.W.1, 6 p.m.

4th (Fri.). A.V.T. & R.W. SOUTHERN REGION. 17th meeting at the Royal Veterinary College, Royal College Street, Camden Town, London, N.W.1, 11 a.m.

9th (Wed.). EASTERN COUNTIES VETERINARY SOCIETY. Autumn Meeting at the School of Veterinary Medicine, Madingley Road, Cambridge, 11 a.m.

B.S.A.V.A. METROPOLITAN REGION. Meeting at the Royal Society of Medicine, 1 Wimpole Street, London, W.1, 7 p.m.

DUMFRIES AND GALLOWAY DIVISION. Autumn Meeting at the Queensberry Arms Hotel, Annan, 2.15 p.m.

11th (Fri.). V.V.B.F. NORTH OF SCOTLAND DIVISION. Annual Dinner-Dance in the Northern Hotel, Aberdeen, 7.30 p.m.

ROYAL VETERINARY COLLEGE ASSOCIATION. A.G.M. at Royal Veterinary College, Camden Town, N.W.1, 6 p.m., followed by the 23rd Commemoration Ball at the College, 8 p.m. to 2 a.m.

17th (Thurs.). DUMFRIES AND GALLOWAY V.V.B.F. LADIES GUILD. Annual Buffet Dance at the Cairndale Hotel, Dumfries, 8 p.m.

V.V.B.F. COUNTY OF AYR LADIES' GUILD. Annual Buffet Dance in Western House, Ayr.

23rd and 24th (Wed. and Thurs.). B.V.A. CONFERENCE ON HYPOMAGNESAEMIA. Meetings at the Victoria Halls, Southampton Row, London, W.C.1, commencing 10.30 a.m. each day.

December

2nd (Fri.). NORTH OF ENGLAND VETERINARY MEDICAL ASSOCIATION. Annual Dinner-Dance at the White Swan Hotel, Alnwick.

Letters to the Editor

The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the B.V.A.

Veterinary Education

Sir,—I trust that Professor Weipers is suitably impressed when I say that his paper published in THE VETERINARY RECORD of October 15th, is the first I have ever read on the subject of veterinary education; indeed, it is probably the only paper on education of any sort that I have read.

I have always had the impression, gained from observation, careful, critical (I almost said clinical) observation that educationalists are somewhat inclined to miss the wood on account of the trees.

I myself am a product of the Second Period of Veterinary Education. Quite frankly, I am not dissatisfied with the results. Modesty, of course, prevents me from drawing (publicly) conclusions based upon purely personal self satisfaction; but when I look around among my contemporaries I feel that we have not done too badly by our profession. My contemporaries, needless to say, are occupied in every conceivable branch of the veterinary field. Many of them have reached the summit of their respective fields not alone by seniority but also, and indeed in most cases, by sheer ability.

Professor Weipers states that principals in private practice will want graduates who are interested primarily in clinical subjects. I suggest that in saying this he grossly understates a case. Private practice requires graduates with a clinical bias. Ultimately the vast majority of graduates enter private practice, and therefore it is only right and proper that veterinary education should concentrate primarily on clinical subjects.

To me it seems only reasonable that any system of education should cater for the majority and provide facilities for the minority to progress from this point onwards into their narrow fields (I mean this kindly).

By the same token I also believe that a four-year basic veterinary training is adequate for this, given of course suitable general education as a basis. To be practical one must realise that to allow the first flush of youthful enthusiasm to be utterly spent during a protracted training period is not a good thing. One wonders if one's grandchildren will step out into their practical vocation before middle age has slowed them down.

Finally, we must not lose sight of the raw materials of education—the students and their teachers. Both come in all varieties. Without the right types we shall never get anywhere. Students are realistically simple—no I withdraw that remark hastily and apologetically; it might be misinterpreted. I will say instead—the student problem is easily dealt with. If a student is found to be wanting he can politely be asked to tender his resignation! The teacher problem is really the bugbear. Who is not able to point to a teacher and say "this man is not up to his job"? Unfortunately teachers are not got rid of so easily as students. They become entrenched. If they are unsatisfactory (from the students' point of view) the passage of years only serves to make them less satisfactory. How many generations of students must suffer as a result of only one bad teacher? Their number is legion.

In my opinion the veterinary profession will always contain a vast number of individuals who could teach a great deal to students. Most of them are engaged in fields other than educational yet this source of intra-mural teachers is never tapped. I feel this is a great loss.

Yours faithfully,
J. P. PICKERING.

Orchard House,
Priestpopple,
Hexham,
Northumberland.
October 15th, 1960.

Photography and the Veterinary Profession

Sir,—I have received a number of encouraging letters in connexion with my paper on "The Value of Photography to the Veterinary Profession" (*Vet. Rec.* **72.** 823). I think that it would be useful to know the extent to which photography interests members of the profession and also to form some estimate of the needs of the educationalists. Therefore, might I, through your columns, ask those who are interested to get in touch with me, describing their equipment (16 mm., 8 mm. or still) and particular veterinary interests? It would also be helpful to have contacts in the university departments, research and commercial organisations.

If the response appeared to be sufficient I would contact those interested and keep them informed of audio-visual activities.

Yours faithfully,
P. R. GREENOUGH.

Avalon House,
Castle Cary,
Somerset.
October 16th, 1960.